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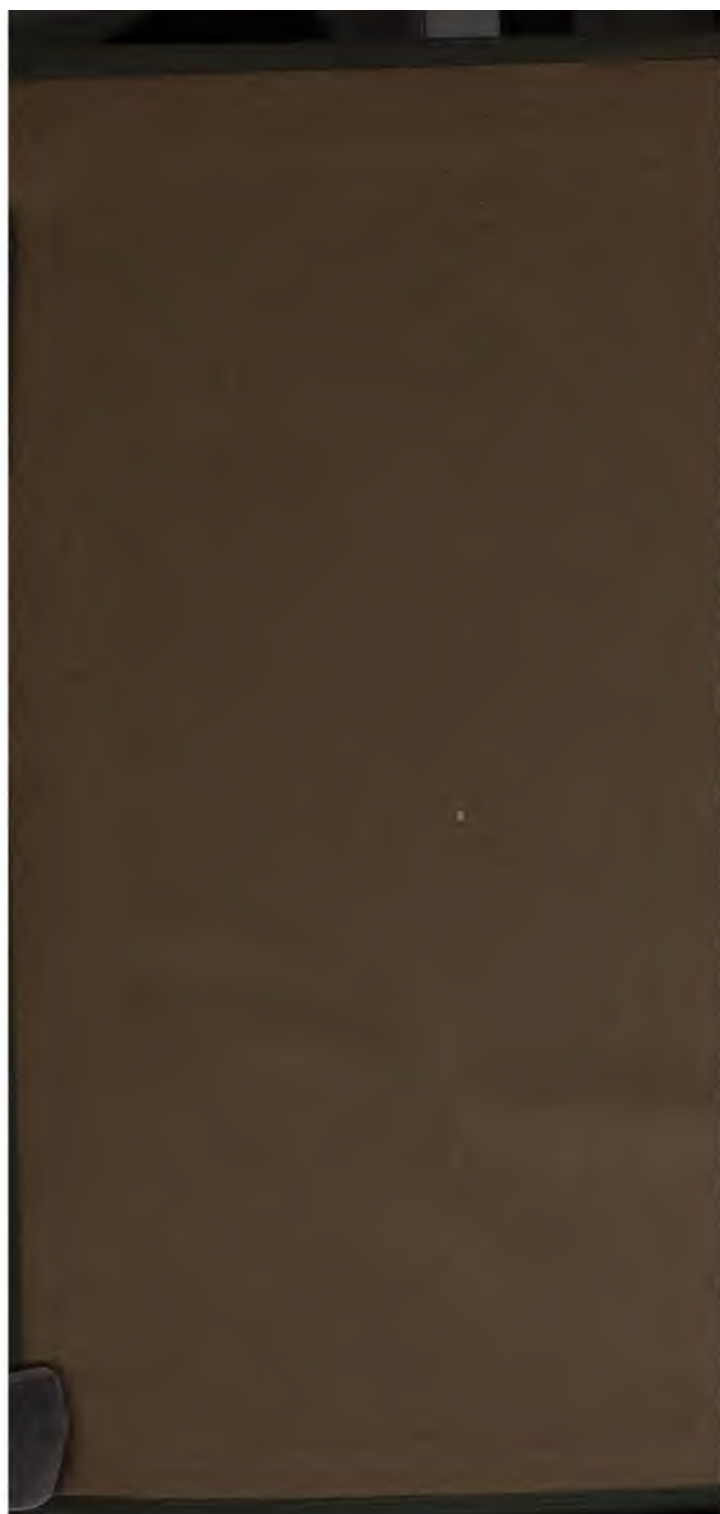
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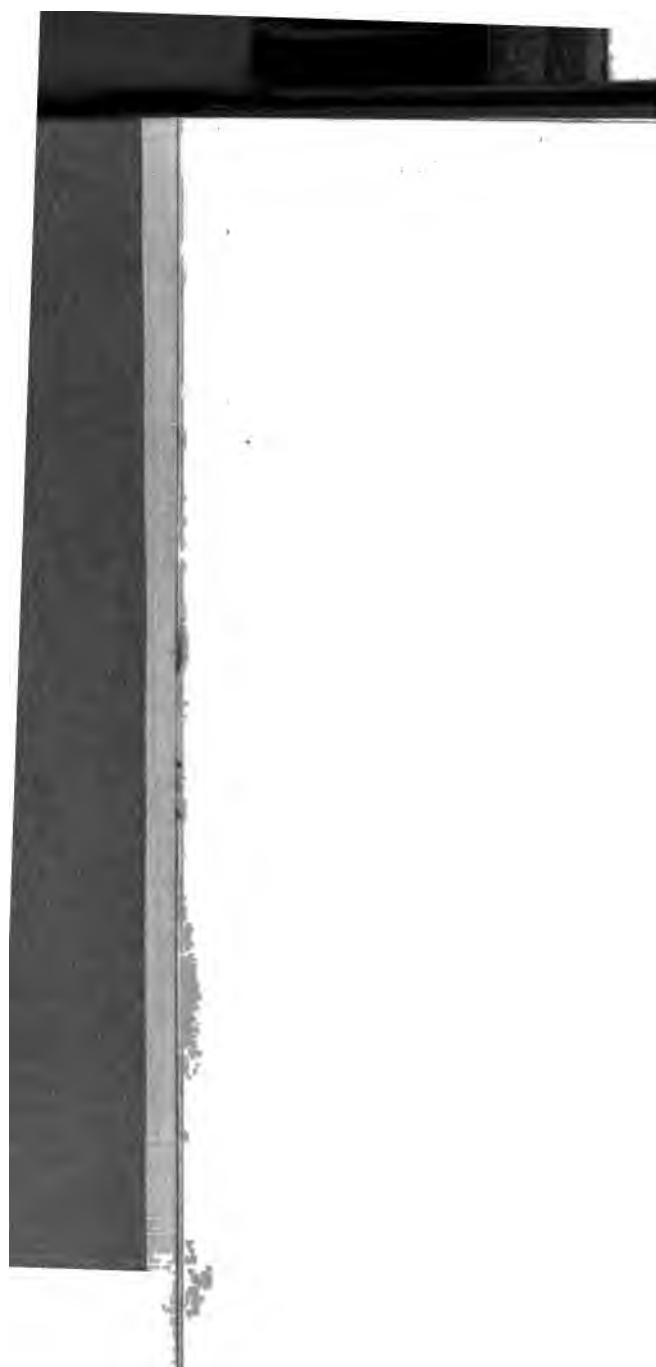


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MATTER AND LIFE





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MATTER AND LIFE:

WHAT ARE THEY ?

A SUGGESTED SOLUTION

BY

WILLIAM NAISMITH,

*Author of "George Linnwood," "City Echoes," "Lux Dei," "A Young
Draper's Guide to Success," "Nature and I in Talk and Song,"
etc., etc.*

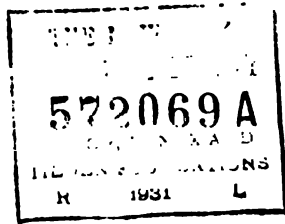
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PREFACE

THE author of this book was led to the study of the various subjects dealt with therein, first, from their close relation to the Christian religion, in the belief of which he was reared, and which, for forty years and more, he honestly tried to believe. Second, after ten more years of careful and serious investigation into the claims of the Christian faith to Divine origin and authority, he became convinced that these claims can have no foundation in a supernatural, or possess no higher authority than that which is derived from the phenomena of the natural order and from human experience.

The infallibility, therefore, which is claimed for the Bible as a Divine revelation to man he was reluctantly compelled to renounce, since the many glaring inconsistencies and errors which he found in the Scriptures are incompatible with any theory of inspiration, and are only explicable as evidence of their being human compositions.

With all earnestness he tried to believe in, and urged others to believe in, the dogma of a future state—that is, the survival and identity of the soul after death, consisting in a life of endless felicity to those who undoubtingly, in their mortal life, accepted the dogma, with its corollary—a life of endless calamity to those who, as undoubtingly, refused to accept the dogma, from loyalty to a belief which reason and experience assured them was a truer and better one. He endeavoured to lead others to his own conviction that the fables and

historical inaccuracies of the Bible and all its records of mysterious phenomena were embodied in it by Divine intent, and, therefore, of purposeful mystery, and for spiritual discipline.

Such effort and consequent experience resulted in the conclusion that the Christian religion, like all other religious systems, cannot but be regarded as a record deeply tinged with superstition; the sequence of the attitude of a people passing through a mental process of evolution, natural and necessary at the time, but quite superfluous and delusive as a standard of belief and conduct to others at that stage of ethical development which is strengthened by the aid of science.

The author has endeavoured to show in this book that science can, in every rational way, secure man's highest need and happiness more certainly and effectually than any system of religious belief. In issuing this book, therefore, his hope is not so much to convince the reader as to start him on a line of study, in which his reason, guided by the latest findings of science bearing on the doctrine of a supernatural, may be allowed its freest possible exercise.

There are unmistakeable evidences around us that the majority of thoughtful men and women are concealing within them a burden of question and doubt respecting their religious belief and consequent responsibility which has become very high intolerable. Others are finding their long-cherished faith crumbling into its primitive elements—myths of ignorance and fear—for lack of any reality; but they are timorous as to the effects of a confession of intellectual inertia, or of the surrender of their early and now exhausted superstitions. True sympathy must be felt for those who are in this attitude of suspense, and who, at the parting of the ways, hesitate to disconnect themselves finally from their es-

Such readers are advised not to be timorous, since sincerity in dealing with convictions always brings a high reward. If they will carefully read this book, they may haply find in it some assistance to a right decision and to serenity of mind.

The discoveries and triumphs of human thought, a true knowledge of the laws and constitution of the world in which we live, and, beyond all, a knowledge of ourselves, ought not to remain, or be regarded as, private property, but should be the common property of mankind.

As the author does not profess to be himself a specialist in science, his book claims no finality in that branch of knowledge. Its scientific conclusions are the results of his reading and study, and have been used mainly in confirmation of his thesis. The work has been written in hours gleaned from the cares of business, and on that account alone the author hopes for the indulgence of critics. He had something to say, and he has said it to the best of his ability; and, finally, he gladly acknowledges his indebtedness to all those distinguished authors from whose published works quotations have been made.

Aidenburn, Kilcreggan, Dumbartonshire.



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CHAPTER I.

PREJUDICES AGAINST MATERIALISM

ARE those who talk glibly about Rationalists quite fair in their deductions and their censure respecting them, assuming such deductions and censure to be based on knowledge?

Christians admit to-day, less reluctantly than was their custom not so very long ago, that natural, rather than so-called supernatural, operations account for the religious sentiment. They are gradually, if not gladly, finding freedom from a slavish credence in the supernatural. They have a consciousness that they have hitherto accepted and believed too much, and reasoned too little, as to the authenticity of their faith. This is a welcome sign of the emancipation of the human intellect (and, therefore, of the higher civilisation) from its bondage to superstition.

Liberal Christians—for Christians are not all liberal—are even consenting to a freer criticism of what is still regarded as the “Sacred Text”; while a smaller but increasing number admit their growing respect for scientific analysis and evidence, irrespective of their advocates or origins.

We acknowledge the credit due to those Christians who abstain from resisting the progress of science in these days, while claiming for their faith the first place in human thought. Their attitude is apologetic, but pardonable, and such as might be expected in their new relations to scientific thought. Such an attitude comes from the

old tendency to uncertainty of belief, or from a placid expectancy that scientific discovery, however destructive it may at present be, will some day be moulded by the supernatural in the best interests of a final reconstruction of the Christian faith.

A still more limited number of Christians, doubtful of the stability, and somewhat fearful of the growing unpopularity, of their faith, have recourse to scientific modes and terms; but by misapplying such, in their endeavour to buttress their shattered faith, they end merely in weakening the entire structure. Science is helpful to those only who employ it respectfully and intelligently.

But, linked to the broadest charity of Christians in the mass, there exists a deep-rooted hostility to Rationalists and Scientists, both of whom are still suspected of concealing the cloven foot.

Is it not a remarkable fact that, if a devout and earnest student should happen to reach conclusions, after the most thoughtful study, which are not exactly those of the orthodox party of his day, he is held to be neither devout nor earnest? He is labelled a Rationalist or Atheist, terms which still involve exposure to the contumely of the religious world. The artillery of anathemas which religious people still discharge at a Rationalist when they see fit would fill an armoury of no mean dimensions. A Rationalist is, in short, a man suspect in all his relations. If, on the other hand, a no less devout and earnest student happens to reach conclusions that leave undisturbed the serenity of the orthodox, he is admitted into the ranks of the chosen and welcomed as a worthy specimen of the intellectual man.

Most educated people will admit that all men are free to think; but how few, after all, will admit the *bona fides* of the Freethinker, whom the State protects as a

law-abiding citizen. To diverge from a belief in the supernatural origin of religion was, until quite recently, regarded as not merely heretical—*i.e.*, involving the expulsion of the heretic from the exclusive region of Christian citizenship (if hardship that be !)—but he who did so was suspected of a sinister purpose of wider significance than the ruin of Christianity, since, being capable of *that*, he might be thought equally capable of plotting the ruin of his country. If a man's conclusions be the fair results of earnest study, surely they are fit matter for the thoughtful consideration of others ?

Whence come the fruits of study if not from devoted seeking after truth and reality ? The same premises will not yield the same conclusions to all students. Even two minds cannot arrive at identical opinions on the same subject, since they are different minds. Each one is dominated by a specific hereditary trend ; and, moreover, all subjects of thought are not simple, but complex, the outcome of many minds, unconsciously fashioned by influences known and unknown to them, which make identity of opinion impossible. The infirmities of, and stumbling-blocks to, human thought, as well as the scope of thinkers and subjects of thought, cannot be in equal measure in each mind. No man's thinking, then, can fix the precise lines for another man's thought to travel by. The mind of one man may be the prison of another. The thought or conviction of one man indicates the region of his own study ; it may modify, or even dominate, the thought of another by reason of mutual affinity or the relative mental weakness of one of them ; but it cannot compel a mental identity. A man's thought indicates the variety of man he is, and will continue to be, subject to slight modifications. Variety of thought is co-ordinate and co-extensive with variety of mind. It is this variety of thought, the source of which is the external world,

that secures all possible progress in knowledge. No man can know too much, nor be educated above his position or capacity. He comes to understand that education has two sides—the one that fits him for the work he has to do; the other that gives him fellowship with truth. Since the work a man has to do in the world (not the present gain or the future reward it may bring to him) is the first need, it follows that the education that can best fit him to secure its ripest fruits for others and himself should command his first attention. All knowledge of the facts of nature and human life that may thus be obtained will end in making the learner a worthier and more useful being.

Such knowledge must be sought for its own sake. Meanwhile, middle-class Britain grumbles at its education rate, and with reluctance consents to the two things that can alone save it from dissolution—viz., unsectarian education and diffused thought.

Although it is of the first importance, not that a man should have logical and well-arranged thoughts, but that he should have a right mental attitude, and preserve his true relation to the universe of which he is a part, yet there is such a thing as a direct perception of truth which disclaims definitions. It may sometimes happen that it is safest to place before conscious knowledge or dialectics our trust in the physical mental function that intuitively perceives and simultaneously responds to impressions produced upon the mind—as in the case of simple, natural, or normal minds; and this is specially characteristic of the female mind. It may be true that a man's keenest perceptions and inspirations
* lie in the habitual first look which he casts on objects. But it is at least certain that no real progress is possible except as the mind is in possession of some specific knowledge, for thereby it is fitted, as by the gift of

a new function, to secure its end and increase its power. Only by knowing can a man achieve the significance and distinction of a human being. Since the individual is but *one* in an infinite multitude of men, he cannot think and formulate for the infinite, or fix a standard of belief for mankind.

A man can speak only of what he knows, and even of *that* with a becoming hesitancy, since that which he thinks he knows depends for its accuracy on his knowledge of its relation to other things of which he may know nothing; and these, again, in their relation to antecedent causes or groups of things, all bearing a close and cyclic relation to one another. In all cases where accuracy is demanded, the reasoning function is a more reliable authority and guide than the emotional function. Reason is the emotional reduced to the real and practical. The emotional, while real as an emotion, is a contingency, and is, therefore, ephemeral. But it may be asked: Are there any occasions in human experience when emotion is better than reason? Our answer is, when emotion does seem to assume a significance, it is because of its instantaneous reaction, or when it is subordinated or returns to reason—otherwise, emotion issues in no lasting profit to anyone. Its shortness of duration signifies organic weakness, and, while it lasts, is obstructive and destructive to the highest issues. Even when emotion rises to the sublime in very excess of passion, it is then most dangerous, and, except for reason behind it with its grip, keeping the mind (its own or another's) more or less sane by holding it earthwards, there is no saying to what castles in the air it would climb, and what catastrophe might thereafter take place. Some persons plead that a revelation from God ought to settle the basis of belief. But a settlement of belief is beyond the power and purpose of a revelation. It was not so

intended, supposing a revelation and an intention. Revelations are addressed to the reason, not to the emotions. Indeed, a revelation that would supersede reason could not meet a man's needs, and would fall short of every claim to be a revelation, and must occupy only the sphere and function of an opinion. A man can receive nothing as revelation against which his reason revolts. Some others will say: "Surely the Spirit guides into all truth?" But the Spirit (whatever that means) can only direct a living mind actively thinking and reasoning. A living mind lives only in relation to other living minds, and the totality of their activities becomes the collective impetus to the mental achievements of coming ages. There is much truth in the popular aphorism, "God helps those who help themselves"—i.e., that not in a passive, nor even in an expectant, attitude of faith (the issue of which is intellectual impotence) can men achieve mental efficiency; but only in active, conscientious endeavour. It is Pascal's dictum that "the first of Christian truths is, that truth should be loved above all." Strictly speaking, *there can be no revelation of truth*, since the miraculous or supernatural in intellectual progress is a material impossibility. It would be miraculous to apprehend truth by any other way than by natural and physical media, since men are physical beings in a physical world, and of any except material worlds there is no evidence whatever. Truth, in brief, is just *organic* harmony of physical functions expressed through media in which there is neither miracle nor anything supernatural. The physical universe is infinite but incompleted truth manifested in cosmos, and every unit of it is relative to the whole—a related but imperfect truth. All growth is from the less to the greater. Existence is an eternal effort not to reach, *but approximate to, completion*. But since completion

is unthinkable as the antithesis of the eternal, human achievement of *final issues* may be relinquished as a dream. The law of the universe is, that sustained and specific effort is the price demanded for the privilege of being and having. When individual effort becomes exhausted, organic dissolution of the individual ensues; and, simultaneously with dissolution, a process of reconstruction begins—not of the old individuality, but of something else. If faith be an emotion—since it acts only in response to the sense or senses, and is, therefore, independent of the intellect—reason is a function, inasmuch as it is acquired by observation and reflection. To believe, therefore, is the function of reason rather than the resource of faith. The latter is an organic instinct by which the mere physical safety and support of the organism is secured, rather than a mental attribute that conceives, perceives, distinguishes, decides, and constructs. The power to know, therefore, is every whit as deserving of respect as the emotion of faith that merely trusts. It is the inclination of the weak to trust, but it is the inheritance of the strong to know. Human reason is frequently contrasted with faith to the intended discredit of reason, which is by the religious regarded as applicable only to the exigencies of civil or secular life. It has, at least, been regarded as absolutely alien to, and is even still imagined as dangerous in, the region of religion, and is only tolerated by the Church as a dangerous function of philosophy. Is not reason the justification of right feeling and acting? Even the emotions or passions that are worthy and useful in their own place are so in proportion as they are justified by reason. It is reason that makes humanity stable and classic in a world of ever-changing phenomena. Our failures almost always result from pushing things out of their reasonable proportions. Errors are constantly found to be the

exaggerations that follow from the emotional obstructing the rational—by faith obstructing reason. The mind is too often lured by its emotions to distant and distorted views, to the neglect of the verities that lie beside it. Mental balance is possible only when the emotional is restrained from dominating the rational, or when the two reciprocate, and the weaker accepts guidance from the stronger. Neither ought to cherish suspicion of the other. Each can be strong in its own region, in action and reaction.

If we may venture to define the spheres within which they have play, we would classify emotion or faith under the category of *simple impression*, that seeks interpretation and proof in reality, or the poetry and dream of the awakening reason; and reason, as poetry shorn of its pictorial fancies, or the dream of youth realised in the concrete experience of middle life, and crystallised into truth by the facts of existence. In short, faith is the poetry of sense; reason is the fact and substance of the universe. Yet, notwithstanding their individual importance as marking a process in ethical development, the mercurial motions of the one, and the methodical processes of the other, rank as physical phenomena only. Neither applies to us as individuals with infallibility. They are the result of one man's feeling and another man's thinking, and, as such, are merely contributory to the life of an age, and the age will only use them as the theories or discoveries of its own criticism. But, while that is so, reason has a claim on intelligent beings infinitely more imperative than it is possible for the mere emotion of faith ever to acquire. It is, therefore, unfair to classify one man's opinions as absolutely erroneous, and another's as absolutely veracious. Only as opinions are based on the emotions, or on mere faith—i.e., when belief is a response of the

senses merely, and not of the intellect—can they be called erroneous. On the other hand, only when opinions are based on the facts of existence as they *are*—and not as they are *imagined*, when such facts are interpreted, not through the *senses*, but through the *reason*—can they be called veracious. Until a supreme standard can be fixed representing a final definition of truth, truth and error will remain to intelligent men as mere opinions, that is all, and we ought to be mindful to receive them only as such. But we all know that a supreme standard of truth is as impossible as that the resources of the universe can be calculated within known limits. A Christian has no right to say, because he cannot accept the evidence of science, or the logic of reason, against a belief in the supernatural, that both logic and reason are therefore false and impious, and that their advocates ought to be dealt with by anathema and scorn.

x He who will determine against that which is known because there may be something which is not known, or he who will place supernatural possibility above acknowledged certainty, is not to be admitted among reasonable beings. If that which is known may be over-ruled by that which is unknown, who can arrive at
x any assurance?

There is great gain in the experience that opinions which once we embraced as truths, and which may have been, when we knew no better, helpful to us, were not in accordance with reality or the true knowledge of life. We have reason, therefore, to cherish truth, such as we know it, with heartiest gratitude, till its time comes to pass away before the newer light and the truer vision. The great error that saps life of its opportunity and felicity, and injures the true balance of mind, is not that we should evince our respect for venerable doctrines, *since that is both right and expedient*, but that we

should remain attached to those in which we no longer believe. Truth and sincerity are urgently needed to-day for the proving of all things ; and how much the more when a long-imposed mystery continues to overshadow the twentieth century, and resists the reason which would pierce and expose its emptiness and supernatural pretensions ? The unknown is not entitled to the attributes of a living personality, or the rights of a Supreme Divinity, since it is impossible to apprehend what claims the Unknown can possess to warrant our worship and service. It is incomparably more probable that the Unknown is altogether indifferent to all that appears of supreme importance in this life of ours, and that, though it broods over us and in us, and penetrates our being, and inspires and moulds our life, it is as careless of our individual belief as air, water, or light.

CHAPTER II.

MATERIALISM

HITHERTO our remarks have been introductory—a paving the way for a series of discussions and criticisms, with Materialism for the subject.

We demand an unprejudiced and rational examination of the claims of Materialism on human reason. It has been often discussed, and as often vetoed by theology as an obnoxious as well as a blasphemous usurpation of the exclusive and supreme claims upon us of the spiritual or supernatural. But why, we ask, should theology fear Materialism, if the claims of the former are divinely derived? If theology is established upon the eternal rock of truth, any and all assaults against it must end, not merely in the destruction of its antagonist, but also in the greater consolidation of its divine impregnability and the wider extension of its authority. Right has nothing to fear from wrong. The Divine has nothing to fear from the human. From the attitude which its advocates adopt, it would appear sometimes that the Divine *has* something to fear. All that is required to test the respective merits of Materialism and the Christian religion is the liberty of each to recommend its claims. This right we respectfully assert, and claim, and will use to the best of our ability.

Materialism means a knowledge of the conditions of the life we live, and, therefore, a knowledge of ourselves. We cannot acquire the latter without an intelligent conception of the former. A serious study of Materialism is

of supreme need, therefore, to right relations with nature and ourselves. It is of the intensest concern to all to whom Materialism is the foremost and truest of facts. It is to the infinite loss of those who, from habit or prejudice, or both, put it aside under the shadow of some monopolising faith. It will not abide under shadow, since it is a natural, vital, aggressive fact of being, with the universe for its foundation and claim. Instead of shrinking under the scowl of a conventional fetish, its office is to invade the imaginary realm of the supernatural and reveal its emptiness; thus indirectly, as well as directly, setting forth the fulness and sufficiency of the natural. Faith and reason cannot be true friends; an incompatibility of outlook will ever separate them. On that ground alone, if on no higher, every believer in the supernatural has a stake in its survival or extinction. Materialism, likewise, has a profound interest for the great mass of men, for the reason that collective as well as individual human welfare is largely determined by opinion and belief, and men in these new days are no longer the serfs of an intellectual aristocracy. There must be no *class* in the intellectual realm. It is neither vulgar nor mere ethical Materialism we labour for, but an aspect of it quite distinct from either the offensive or the strictly moral view.

Materialism in its essence—*i.e.*, its significance and attitude, as the equivalent of concrete existence—is what we have to do with. Materialism is not the mere negation of spiritualism to which supernaturalists cynically give the name “sensuous science.” The Materialism of the Scientist or Rationalist is a subject for intellectual investigation—higher than typical supernaturalists care seriously to consider. If they would give it earnest study, they would evince their respect for reason. Knowledge of *nature*—not mere intimacy with its external aspects,

but its inner significance—is surely that which the most reverently minded should desire. Knowledge uplifts, never lowers. Notwithstanding their assumed attitude to Materialism, theologians—from papal princes down to the humblest excommunicated schismatic—are most skilful in evading the supreme command of the faith which they have vowed to observe, and from which they take their title as Christians. “While in the world” they are enjoined to be “not of the world”; but it is very doubtful, indeed, if any section of Christians love the world, or the things of the world, one whit less than their materialistic neighbours. A careful study of nature, of which we are a part, and an honest acknowledgment of its claims upon our best intelligence, would help pseudo-believers in the supernatural to realise their essential identification or oneness with their external conditions, the realisation of which would make them, if not better Christians, at least better human beings. We have but to study the history of the lives of Romish Popes, and the “morals” of orthodox religion, to see clearly that, whether they will or not, the spiritually-minded—so-called—are very materially concerned. It is not “moral” Materialism, then, we have to do with, but scientific or cosmic Materialism, of which all true progress, and even the higher civilisation, is the offspring. Haeckel calls it “monism or realism.” Kant calls it “the principle of mechanism,” without which, he contends, there can be no natural science at all.

It is necessary to guard against an ambiguous use of the term Materialism; for malice, directed to it in ignorance of its true significance, is neither unknown nor infrequent. As is well known, it has been condemned as rank infidelity by all who call themselves good Christians, though it may be admitted that the animus displayed half a century ago is not now so pronounced. To-day, as a synonym

of science itself, Materialism has become tolerable, if not a little respectable. Yet, in its new relation of semi-respectability, in the nostrils of the Churches and the severely good, it still savours of Gehenna. It is particularly in relation to biology, physics, and chemistry, where the natural or normal is thought to be antagonistic to the supernatural or supernormal, that we find a blind and bitter hostility, the characteristic attitude of Christianity to Materialism, still surviving.

↓ In many aspects man is a distinct, individual unit. Structurally or organically, he is generic. He cannot
↓ be alienated from generic fellowship. Any attempt to dislocate his identity with matter and organic being nature would visit with the severest penalties. Hegel maintains that man and the universe are *absorbed in* the being of God, and that man is deprived of individuality and will. There is more idealism than logic in his theory of absorption. Had Hegel said *emanated from* God, he would have been nearer the truth, since to be absorbed in is to be beyond identification or differentiation. His theory about will and individuality will be noticed further on. If, in the absorption of man by God, Hegel meant to convey the idea that man was merely an automatic creature, without individual rights or self-consciousness—*i.e.*, an unresisting machine—or if he meant, by God's absorption of man, a mutual arrangement, whereby man was a consenting party, and that in some occult way a mutual absorption took place—*i.e.*, by man representing God in human form, or God representing man in material form—in either case his theory is pure fantasy. Mutual absorption would be equivalent to mutual extinction. Further, if God impersonated himself in man (supposing mutual absorption to have been possible and actual), the result has been eminently unsatisfactory.

He could not have imparted sufficient of himself, for the result in man's case has been as disastrous to any knowledge of him as though he had imparted nothing. If God were in man, it is certainly strange that man still neither knows God nor himself. Nor is the result any more creditable to God, who must thus have been in a state of disintegration, broken up into an infinite mass of imperfect units, none of which could bear the significance of absolute in perfection or attribute.

Men are being very slowly, but all the more surely, delivered from the terrors of a religious despotism which maintained its ascendancy over human reason and will. As is well known, that despotism exacted from its victims unconditional assent to whatever version its administrators chose respecting the unseen and unknown. In the Middle Ages the human intellect lay prostrate under its relentless tyranny. It was Cæsarism under another guise. To the kingdoms of this world there was added the kingdom of heaven. The twin Papal claim typified all power in heaven and on earth. Whatever liberty was allowed, was ecclesiastically measured and sold as a promissory transaction, which was fulfilled or violated as expediency dictated. Even the liberty of an official of the omnipotent chair—who was usually an athlete in mental casuistry—was granted only for the furthering of Vatican policy. The claim of the individual to private judgment was deemed impious, and anyone found exercising his right to free thought and free speech was not long in finding himself helpless and at the mercy of the most ingenious cruelty, consecrated to proselytism, and from fear and dread was only too easily tempted into greater mental slavery and submission. The free exercise of reason, which has secured for man in these days his classic position in the world, would have been hopelessly crushed had the Church

maintained the triumph which she seemed to have won. We do not say there was any period in history when the Church was altogether an evil in the world. Nor would we be so foolish as to maintain that there was no justification for the exalted attitude in which religion was embodied in the Papacy, and the power which, as interpreted by the latter, it relentlessly wielded during its long period of supreme sway.

Mankind could have made little or no real advance through the Middle Ages except as some mastering mind or system ruled and crushed turbulent and disintegrated nations into something of civil and social order. To have made the heterogeneous homogeneous, and to have provided nations and men with a concrete scheme of common work and faith, was no mean task. Thus, nations and men learned the constructive value of obedience, unity, and a reverence for authority; and, however faulty the system might have been in its Christian application, it was, indeed, a great constructive achievement.

The Papal Church did *that*, and, in a smaller degree, also, other religious systems subsequently performed a similar work. All religious systems designedly or unintentionally contribute something to the progress of the race. Even mere existence and movement are productive of good. But productiveness was not the initial motive of religious propagandists; their aim was rather for sectarian or sacerdotal ascendancy. All human activity is good, and ultimately and inevitably issues in humanitarian profit. From the soil even of tyranny spring self-sacrifice and the resources of liberty. No system of ethics could of itself restrain man's natural instinct to know, or inspire him to the highest efforts. Only as it excited hope of profit in some form, or held out present or future reward for service given, with the equivalent punishment for the neglect of its claims, could religion or philosophy

have attained any measure of real respect and observance. On the other hand, persecution was a beacon to show to the gods the possibilities that lay dormant in men. Some might say that this is a plea for the claims of religion, even if it is made the most exacting and cruel of all persecuting weapons. Not so in reality. But, still, it may be frankly admitted that the discipline which twentieth-century humanity would undoubtedly resent as an outrage on every human right was enforced with positive benefit in an age when intellectual and civil life were in a condition of pregnant and actual disorder, "without form and void." A period of metamorphosis in a nation or nations is always one of extreme uncertainty, and requires extreme measures of treatment. But it is also one of great opportunity. An environment of disorder or doubt is a condition out of which issue birth-forces that carve out high ends, and secure under right direction the highest elements of human happiness.

Human history has had its epochs and periods of deep perplexity, when rude and restrictive methods were the only curative means to order and industry. It is by collecting dissipated energy to some specific end, or by setting it free from undue restraints, that any beneficent result can be secured. Thus did Greece win crowns and imperial place in philosophy and art; thus, too, imperial Rome became physically and legislatively the mistress of the world. Religion achieved its triumphs by a different application of the same principle. The intrinsic worth of a system is in its instinct to destroy, as well as to construct. It must be prepared to inflict an ill when required, as well as to confer a good. Appropriation and restitution in some form are the cyclic processes of every vital system. Only as these are applied to ever-coming, ever-changing human need will human progress reach its possibilities. The Christian religion in the

might of its youth was instinct with these two functions—the destructive and the constructive—which were the secrets of its temporary success. The circumstances of its birth were favourable to success. Chaotic systems of philosophy and politics existed which required to be overthrown before a simple, natural, and rational ethical standard of life could restore to a people its mental sanity. No new force was created; no occult or underhand process was resorted to by its Founder. The same forces and needs had ever been, and will ever remain. The Founder of the Christian religion was a constructor of high social ideal and broad philanthropy, if the records we have of him speak truly. We shall not discuss the question as to whether Christ is a historic figure or a legendary synthesis of many real persons, or simply a mythical incarnation of the thought and sentiment of the epoch in which tradition places his existence. Whether as a synthesis, a myth, or a man, the character and person represented in him is a fine one. The pioneers of the Christian faith were men of almost matchless fitness for their task, but they were not exceptional in the sense of being supernaturally possessed, although their superiority as sectaries and enthusiasts is unquestioned. Their humble rank constituted their fitness, since they had everything to learn and little to abandon. Impressionable, of supreme credulity, tenacious of purpose, pertinacious even to martyrdom when their new religion was in question, it was no wonder that such men became heroic missionaries of the Christian religion. It would have been a wonder had they been less successful than they were, since the hearts and minds of men were longing for some common meeting-ground of ethical belief. Such men were found where only they could have been found, and, without their aid and strenuous labour, the incom-

parable rapidity of the growth and phenomenal success of the new religion could not have been achieved. We question if its success, pronounced as it was, would not have been ephemeral except for the favourable conditions which existed at the time of its advent, and the magnetic personalities of its teachers and preachers. The irrepressible enthusiasm of the Apostles of the Christian faith transmitted itself to their contemporaries and successors ; but, gradually losing its first simplicity and charity, it ceased to make converts by virtue of its intrinsic attraction, and became a propaganda which developed into the papal miracle. Its very success became destructive to its simplicity and lofty aims. Under the fostering but corruptive influence of priestly pretension, the simple, natural, though ideal, scheme of life as taught by Christ developed into an ecclesiastical hierarchy, which, tempted by oft-repeated visions of coveted power and splendour, rested not till it sat upon the thrones of the earth and claimed the homage of every earthly crown. Spiritual despotism would eventually have wrought a universal paralysis had it not been for the inherent indestructibility of life and love of truth in humanity. And the same spirit of avarice for power has, without exception, distinguished all religious systems. Religion seems to inflate its leaders with an irresistible desire for dictatorship in conjunction with a claim to infallibility. But it is in human conditions, as in all forms of being, that, side by side with growth, there goes on the process of decay. The life of a system is measured by its capacity of adaptation to its environment. No religious system can so adapt itself for ever, since religion is the offspring of emotion under the dominion of the senses, but which, in an age of reason, is subject to the approval of the judgment. Forms and conditions must be temporary. Existence is secured

by the principles of degeneration and regeneration. This present age, then, is not a new time, but a regenerated past—the cyclic past in the ever-renewing cyclic present.

Hereditary superstition dies as hard as hereditary weeds in one's garden. As the latter will, if not destroyed, overwhelm all higher growth, so superstition, if not subjugated, will result in intellectual overthrow. And just as in horticulture the higher products require assiduous attention if they are to become still higher, so in the realm of Reason mental atrophy will follow as a consequence the neglect of mental development, and the jealous guarding of it from all that would hinder its true increase.

The only sure safeguard in a world of men of whom two cannot think alike is in the practice of mutual forbearance and respect. Conflict of opinion is a need of mind. There is neither right nor wrong in conflict of this kind, because it is a necessity. There is but one eternal right—the right of the wisest and fittest to pilot thought towards life's onward work and highest worth.

Nations are thrust headlong into the theatre of conflict, and on the iron anvil of destiny the Thor's hammer of battle beats and crushes and shapes them into the form which the needs of existence design. Change the figure to that of religion, and the issues from it are shaped similarly with as infallible precision. Causes and consequences form an unbroken circle. For how often has the individual made history, and fixed the destinies of peoples by an unpremeditated change of action.

Luther shattered the most elaborate organisation that the genius of mind ever constructed, and gave a trend to thought and education the disciplinary value of which to mankind no figures can represent.

John Knox set free a nation from manacles which, had they been prolonged, might have maimed for untold

centuries the real manhood of Scotland. Christ, when twelve years old, left his home for travel, and returned a Reformer, whose teaching of human duty was natural and simple, if emotional, and, therefore, fitted to attract minds of like temperament. The phenomena of existence remain the same, except that the actors and methods are ever changing. Men come to battle, and pass to earth, and their successors reap results. These battle again, bequeath their losses or triumphs to those who follow, and they in their turn pass also away. And so eternity rolls ever on. The circle is the same, the events are the same, the actors alone are different. It is fit, therefore, that men should know the art of true battle if they would live and win; for, whether they will or not, struggle will test their real worth to themselves and to the circling ages. All the phenomena of human thought and action are required to complete the sum-total of human history; and involved in human action is all contemporary existence, whether organic or inorganic, by which the human is helped on to the unity and efficacy of life. Trueness is that quality of organic being that adapts itself to struggle, and only by struggle can the functions of life attain their true purpose. Trueness, or onwardness, is the eternal significance of life. It is inherent in everything that lives, and is the reason why anything does live, to increase. If failure takes place in any case, or in any number of cases—if such there be—it does so that a more capable successor may inherit, succeed, and bequeath an impetus to the possibilities of being.

It is true of men as of the lower animals, as of forest trees and blades of grass; of the ephemeral insect and formless germ, of the molecule and the atom; that life-work is realistic and communistic—the circle remains unbroken.

The necessities of being make ways for themselves without the interposition of any supernatural agency. They tap all the resources that exist, all motion of hand and brain for nourishment to swell the fruits of life. Everything that lives reaches an end to living when the future calls upon the present to give place and make room for renewal and reconstruction.

Men in their ending are like the overthrown stones in a falling edifice. They are laid aside to be re-hewn and re-shapen; their old identity passes away; but to the new structure they are as indispensable as they were old, either for ornament or use. Men pass away; but out of their imperishable substance are reared successors and to these successors, and successors, throughout the æons.

CHAPTER III.

MATERIALISM THE HIGHEST REASON

WE take exception to the positive philosophy of Auguste Comte in so far as it shuts the door of inquiry into first and final causes so-called, and confines itself—professedly, at least—only to all that comes under direct observation—all facts, classifying them without any regard to their origins and purpose, since these do not come within the scope of experience and observation.

Science invites its votaries suggestively, if not actually, beyond the material limitations of observation and empirical criticism. Science has a titular right of invasion into all realms accessible to its searchlight. Nowhere in the universe is there a placard against truth-seekers—they never trespass. The modern needs of existence imperatively demand knowledge of the facts of existence wherever these can be found. Science may invade the domain of psychology as a peaceful searcher for truth, and must either find good reason to assent to the conception of soul or spirit, or a valid reason to show that the conception is, after all, only an assumption.

Hence Positivism, as a scientific instrument, ill-used it may be, has failed to adhere to the rigour of its principles, and is constrained against itself to entertain wider and truer interpretations of things—the materialistic no less than the spiritualistic (so-called) or unseen. The science of Comte and Mill has overleapt the boundary which these two great thinkers set to it—*i.e.*, the sphere of Positivism as they defined it—by allowing fair scope

to the humanitarian or religious sentiment. In its later disciple, Positivism has virtually abandoned its exclusive limitation to the region of observed fact, since in M. Littré it has steadily exhibited a growing tendency to endorse the materialistic solution of origins. We refer, of course, to the earlier attitude of Positivism, when the solution of origins was quite enigmatical.

This is surely a suggestive relaxation of the Positive philosophy, inasmuch as it has found it expedient to shift its ground—a significant movement of an order of mind accustomed to sift mere theory from fact, and mark the splendid revelations of science. We believe in the certainty of mind, guided by the light of science, to achieve the solution of origins. Approximately, this is already well-nigh accomplished. Darwin and Wallace in our own country, of whom it is proud, and Professor Haeckel in Germany, have effected a revolution in the regions of ethics and religion by a scientific classification of biology, morphology, and a system of genealogy.

Professor Haeckel, in his *History of Creation*, has made advances beyond any other scientist in the solution of origins, by an exhaustive study of morphology and palæontology. By laborious and prolonged research and experiment in various portions of the globe, he has succeeded in establishing a rational and convincing exposition of the generative functions of evolution inherent in the first essentials of albuminous plasmic matter.

Hereafter we shall have occasion to refer to some of Haeckel's discoveries and experiments. We have said that the human intelligence is equal to the solution of the problem of origins, assuming them to have had an organic beginning, and assuming also that human intelligence is an organic or material function achieved by evolution along the line of development (which we will try further on to prove), and that the affinities or

properties of matter possess the function of self-solution.

Since an intelligent First Cause cannot impart aught of which it is not itself possessed, and since it must convey to creation or to the objects or beings it is supposed to create some degree of its own qualities and function—i.e., to the measure of their limitations—it follows that human intelligence must be constructed of the same substance as the First Cause, and inherit the same qualities and functions of its mover or beginner. If it is intelligence in limitation or in degree only, and not its negation, that has prevented man from solving the problem of his own origin, it is manifestly only a question of time, not of impossibility—a postponement more or less prolonged—when the ancient secret of the ages will no longer be a secret, and the long-expected utterance of the Unknown will put a period to mystery. Science has given to us revelations of the eternal verities of matter, from the boundless treasure stores of the universe, sealed to none except to those who, afraid to enter, can never know the record of its past, or the causes of their own being. The one-time secrets of matter, which were as impregnable and profound as ignorance and superstition could make them, are now captured and disclosed, and science, with its searchlight, is shining down their labyrinths, showing ordered ways, changing mystery into wondrous story, and reducing the chaos of the unknown into order and historic unity.

Instead of divine thunders crushing impious intruders into terror, because of their profane siege of forbidden territory, the heroes of science are being crowned with honour; and, by an extraordinary succession of discoveries, have routed the theory of a special creation and the dogma of a divine revelation. Science is the

exact conformity of human knowledge to concrete reality, or the stern recorder of the nature and use of existence. It deals with things which really exist, ascertains their relations one to another, and proves matter to be eternal and cyclic. Problems are understood when the *why* they are, and the *what* they are, are known, just as a mathematical proposition is apprehended when its various sections are known in their real relations to each other. "Three interior angles of a triangle are equal to two right angles. Bodies attract each other in proportion to their mass, and inversely as the square of the distance." We have no hesitation in repeating that as knowledge of material energy—for example, electricity as matter—is better understood, science will find the solution of the origin of matter, if it had an origin, or find the yet missing link that will demonstrate what we believe to be the unbeginningness of matter.

In molecular motion science will, we venture to think, find the absolute reason of matter. When that is achieved, there can be no doubt what the result will be to faith and religion. It has already indicated its opinion, through its foremost intellects, that matter—not atoms merely as such—is eternal. We do not hesitate to say that science will furnish evidence, derived from the intrinsic properties of matter itself, that it is no invention of the supernatural, more or less ancient in time, but the literal substance and fact of eternity. Science does not pretend to furnish specific data of the advent of organisms on the earth, although it may yet do even that; but it does, with the best reason, assert its ability to show how and why organic forms began. Its present inability to account for First Causes, or Cause, so-called, is merely relative. The time to tell *this is only postponed* until it is able to demonstrate the

problem of life itself. When science does speak definitely on the problem of life, it will be found that life is neither a mystery nor a miracle, but an orderly process and sequence of matter in evolution. The right of science to assert that the secret of life will one day be made known is certainly more reasonable than the right of religion to assert the impiety of saying so. Others than Democritus have asserted, and yet assert, that truth either did not or does not exist, or that by man at least it was not, and is not, to be discovered. In the same spirit of pessimistic scepticism, not Protagoras only, but modern sophists, maintain that man, as they contemplate him, is the measure of all things true or false, good or bad, since it is to him these distinctions are due. There is a distorted truth in this which we hope to expose further on. Suffice to remark at present that, although man is the latest product of evolution, he is neither the standard of terrestrial being nor its finality. Aristotle observes: "It is melancholy to hear those who might be expected to see what is true, since they sought and loved it, maintain such opinions, because, were they well founded, to aim at philosophy would be to court disappointment, and to pursue truth as puerile a folly as that of attempting to catch birds in their flight." We firmly maintain that a solution of matter and origins is not merely possible, but certain. Matter itself, since it exists, secures to us the means and method of its history. The parts of the universe must be true to their history as parts of a whole, the history of which is theirs also.

- ✕ There is the eternal fact of matter; and since from a cell of matter comes man, possessing in virtue of being matter the faculty to perceive and know, and who is, ✕ therefore, what his substance and its history are, how ✕ should it be thought impossible or incredible that he ✕ should be able to know his own pedigree to its source,

as well as the fact and substance of existence? Science—which is just reason—is on its trial. It knows that nothing can remain hidden from it, since by its own necessity matter *will* explain itself through science. There are, and there must be, secrets to theology, since it makes them and lives by them. It was a favourite theory of schoolmen that the essence of the soul dwelt behind and apart from the phenomena which we see and are conscious of; that there was a side of it, like that farther face of the moon, which never showed. Whatever may be said of this as a theory, it may be defined as an effort to solve the further face of the moon, which, when solved, will be found to be only matter as the other. If, indeed, there be a First Cause, surely there is good reason for saying that it would have been the triumph and complement of its work, as well as an act of the highest equity, when, having made man, filling him with an insatiable longing to know the whence and the why of existence, it should have bestowed *wit* of existence, and with the *conscious* function, another witness by which the First Cause could be found and identified.

The possession of such a function would have been the natural complement and sequence of relationship between Cause and consequence, or between Maker and made. Divorcement from, or the non-endowment of, man of an intuitive faculty to know a First Cause does not suggest an act of supreme intelligence, benevolence, or equity. Besides, an element of superlative value would be wanting in a relationship between Maker and made, which is designed to be mutual and eternal—namely, the element of pleasure and delight of the Maker in being known and understood by his creatures, who would have an intelligent joy and gain in serving him.

The absence of this faculty in man to find and identify

his Maker or First Cause involves also, it seem to us, a hopelessness of mutual conformity or reciprocity. If a child has never seen his parent, and knows him only by report, how can he, however willing he may be, have any intelligent notion of what he actually is, or even understand his relationship or service to his parent? We can conceive no mightier satisfaction to the Maker in making man than to see him reach this altitude of recognition. To suppose a desire less than this would, it seems to us, involve two alternatives, one or other of which is inevitable; namely, either there is an implied deficiency of power to transmit to His offspring the supreme need and completion of intelligent being—the power to find and identify the Maker; or there is implied a definite and premeditated purpose to withhold from man the knowledge which, as an intelligent responsible being, he has a supreme right to. In other words, the First Cause, either from the want of power to bestow on, or deliberately withholding from, man the filial function which is common to all living creatures, and which is one of the chief factors in securing the continuity of organic existence, has deprived His own attributes of their sublimest issue. Or more concisely still, the First Cause, by withholding from man the means of identifying his Maker, has deprived Himself of realising Himself, and man from knowing Him and intelligently enjoying Him. In passing, we would only remark that the law of heredity which theology assumes was instituted by the Creator, and which passes on to the child the qualities partaking of the identity of the parent, has not been adhered to by the Creator in respect to His offspring, man.

Let it be understood that we are for the moment accepting the confession of theology and the practices of superstition all through the ages, that He who is called

the First Cause cannot be found, is not known, and cannot, therefore, be identified.

It is an axiom that the greater proves the less. We have endeavoured to show that the axiom, infallible in respect to all material and natural phenomena, has no value whatever if applied to man's relationship to a First Cause.

The Creator is greater than the created, but the Creator has not proved Himself to His creatures, much less have His creatures proved the Creator.

A First Cause has neither proved Itself, nor has supplied the means of proving It; nor has It proved that the mutual recognition of human or organic parent and offspring is even symbolic or significant of a higher relationship—that of Creator and creature. Should it cease, then, to astonish us that men who have been trained to believe themselves responsible to a Supreme Being should persistently continue to press their claim to know Him? Is there any irreverence—we are quite unconscious of entertaining any—in saying that the desire of the Creator to reveal Himself ought to be, not so real and strong, but infinitely more real and strong, than the desire of His creatures to identify Him? Assuming the desire to be known to be an essential desire in a Supreme Being, since not to be so would be equivalent to the assumption that He is not sensitive to and is lacking in, the attribute of affection and equity, how comes it that men pronounce Him the Unknown, or in the language of Scripture, the "Unsearchable"?

Surely it should be less difficult for the Creator to give His offspring sufficient and reasonable evidence of Himself than for His offspring even to desire to find such evidence. How can men serve the Unknown? If they neither know nor can know anything about Him, how *can they entertain* reverence for Him? If they cannot

know, with anything like intelligence, that the Unknown is more good than bad, powerful rather than impotent, intelligent and sympathetic rather than indifferent to His creatures, what resource is open to them? Putting mere faith aside in a question of knowledge, does not man's greatest faculty—his reason—than which he has no other to judge by or know, suggest that the Creator should manifest Himself to the creature, to whom He stands in the relation of a Father, and whose obedience and worship He claims? Who is He who demands the obedience and worship of men? The question dominates every other. It is asked in all seriousness. It is useless to fall back on the dogma of theology and say, "The finite cannot comprehend the Infinite." That is the dictum of superstition. If there be any reality in the idea of a Creator Who claims His creatures' service on the ground of a relationship that cannot be understood because of that relationship, it should be, at least, a rational idea, and capable of definition as the consistent heritage of His creatures. Such relationship should not only be well authenticated, but it should also be an easy medium of mutual knowledge and correspondence between the lesser and the Greater. The finite is related to the Infinite as creature to Creator in a two-fold way. First, the relation of the lesser to the Greater can only be one of degree or magnitude, not of essence, since the essence of the lesser was imparted by the Greater; second, the Creator can create only what bears similitude to Himself. The finite, therefore, shares with the Infinite the attributes and qualities of the Infinite, adapted to the finite individuality. Being essentially the same, they should be reciprocal—a state of action which the Christian religion and the Church describe as the "unity of the Spirit," or "the peace that passeth all understanding." (Surely this is precisely the case when

matter is embodied in separate and destructible forms). The theologic dictum, that the finite cannot comprehend the Infinite, is merely a pious sophism displaying the cunning of theology, and its ignorance of the scientific fact that the unit or part is one with the universal or whole.

Returning to our argument, faith may, but reason refuses to, conform to a command to obedience, except on manifest equity. He must be intelligently known Who commands us, as well as the purpose of His command. Ages have passed, and unnumbered generations crying in a wilderness for the truth, searching for a Maker or a First Cause, have descended into the everlasting silence without an answer. New-born generations again and again run their appointed time, and their burden-cry is the same; but ever there sounds a more intense and pathetic chord—if there be a Supreme Cause or Personality, why will He hide Himself; or is He, by intent, deaf and dumb to the cry of His own offspring? The wail of the offspring should be the echo of the parent's call of love. If the search is to be an endless one—and, judging from the past, it appears so to be—then the creatures' desire is to be an everlasting soul-hunger and disappointment, with no alleviation of the travail through the ceaseless ages. What a prospect to those who believe in a God and cannot find him—theirs is a pang that passeth all understanding. What would be the rational attitude of a son or servant whose parent or master concealed from him all knowledge of his person, decreeing that rumour only of him should be the basis of his claim for life-long regard and service? Individual responsibility is incompatible with knowledge withheld or with faculties crippled or rendered impotent by restraints. *Right service* cannot be rendered by the ignorant;

neither can a really useful life be achieved by mere faith. It is no argument against this to say that men need not remain ignorant of their Creator, or withhold their service from Him on the plea of absence of proof of Him. As soon as His existence is proved, and His dealing with His creatures is shown to be equitable and rational, we will yield to Him with spontaneous delight our worship and service. We only claim our right as reasonable and responsible men. May it not be affirmed with reason and equity that to ordain human responsibility to One under Whose sovereignty we are said to exist, but of Whom nothing is known, except what mere mythology passed along the ages which were characterised by gross ignorance, superstition, and an orient imagination, would be grossly unfair? Under a human jurisdiction, at least of modern times, responsibility without its civil equivalents would be held to be a violation of the first right of individual citizenship. Responsibility is a conscious acknowledgment of mutual dependence and inter-acting obligation. We grant the right of imagination to construct a faith for itself. Nor would we lessen the liberty of those who wish to live by faith. But we insist that men who claim to live under the jurisdiction of reason have no right to live on the resources of mere assertion and report, and thus limit their responsibility to the measure of their enthralled reason. Life responsibility, based on mere tradition or report, would be unmitigated tyranny.

It is a common assumption of religious people that it is wicked to pry into the "hidden things of God," since it is forbidden by Scripture. The assumption begs the question, as an advocate does who has no case. Such people only imperil their attitude as believers by assuming that God requires to *hide* anything. We think the doctrine of divine secrecy is one of the most objectionable in

Scripture and theology. What is there to hide? If there be anything hidden, why should there be? Had there been any purpose of secrecy, would men have been mentally constructed as they are, or would the veil ever have been lifted on many things which were supposed to be the "hidden things of God"? The assumption rests on a fallacy of the imagination. There is nothing concealed that may not be known by the ordinary methods of mind. Since faith is neither knowledge nor reason, but the mere chrysalis or embryo of these, it cannot have the responsibility which reason imposes, and should, therefore, be treated as a child on its way to the stature and dignity of manhood. We would not be misunderstood. There is no bitterness in these statements, only the utterance of disappointment with the emptiness of religion, which has merely the value of the imaginations that reared it. We, among the multitudes, have cried, as with the agony of an orphaned life, for testimony of an intelligent First Cause and the register of our birth and responsibility; but our cry has been as the wail of one in desert loneliness. In looking out on the universe, the simple mind concludes that some power must have caused it, and it must, therefore, have had a beginning. Knowledge, nor the power of knowledge, has as yet risen in such a mind. It has no assurance—only blind belief. Thus, the ages were heirs to a belief in some undefined and unknown Being, and lived and passed away under the darkness and terror which the Unknown arouses.

And so, in the fusion and confusion of the ebb and flow of a groundless faith, have the religions of men germinated. The supernatural element in religion may be wholly ignored, since the emphasis of belief arises solely from external influence or impression. The *element* of the spiritual so-called is likewise of no

importance, if to environment all mental phenomena can be imputed. The excitation of the senses without the due restraints of reason and knowledge accounts for all creeds, superstitions, and all forms of spiritism.

CHAPTER IV.

MATTER AND FIRST CAUSE

IN further dealing with the subject of a First Cause, which can only be dealt with empirically, the imagination must be strictly forbidden to interfere, and the reason exclusively allowed full liberty. We would, therefore, avoid the use of terms bearing on the emotional, since these are too mercurial to have any solid significance. A subject of such overwhelming importance to men as that of a First Cause or Creator should not be viewed as a theme for a poem, or from a mere literary aspect, but with absorbing earnestness as something vital to existence itself. This chapter will be devoted to an inquiry into the cause or causes of the want of evidence of an intelligent First Cause, and the manifest and significant discrepancy of any equitable or actual relationship between a Creator and His creatures.

The "innate idea" or postulate of a Supreme Being has had many advocates, both for and against. Were the "innate idea" proved, would not the proof only the more clearly evidence the continuity of the order and trend of matter? That organic and inorganic matter exist in proof of universal unity and the law of sequence needs no other confirmation than that which adaptation and environment supply us with in our observation of the order of nature and in our own experience. We would define "innate idea" not as a mere organic conscious trend, since that would imply contingency or

licence, and therefore contingent antagonism of the unit to universal law, but as a motion intrinsic in creature life, an electric line of cyclic energy that evolution makes more and more articulate or pronounced as forms or organisms become more and more complex.

The innate idea is thus the mechanical reaction of universal energy circulating within the limits of universal forms. It is not an imported force or function, but the force of matter. It is current or fluid matter, which, like electricity, may be made articulate. It is co-extensive with matter of which it is the essence—not consciousness as that term is understood, but vital matter in motion. Read, therefore, for innate idea, *intrinsic conformity*, which we think is a better rendering.

We grant that men must conceive something at least equivalent to the idea of a First Cause which will render existence intelligible. But why is it that, among those who say they are the offspring of a Divine Creator, there should exist such a diversity of conception of Him that a rational definition of God is impossible and worship an incongruity? Why should men be under the necessity even of trying to conceive of Him, since He conceived them, if there be an hereditary or "innate idea," which there must be if men are His offspring? Why should there be such a total lack of unity and reason in the almost countless ideas of Him, which issue in world-wide conflict and confusion of thought, when the purpose of knowing Him is to secure unity of belief in Him and world-wide amity?

If the "innate idea" be a gift to men under the form of a guide to conduct or the foundation of a belief, it has proved, if not quite the reverse, at least a most misleading and dangerous guide, and suggests that the Giver had misconceived its function. As has been already remarked, it should not have been difficult for

a God to have given His creatures a fair conception of Him, which, instead of provoking and prolonging human sorrow, would have been a solid ground of agreement, and, therefore, a genuine proof of His existence. But, further, if the perplexity which the "innate idea" has occasioned all along the centuries be considered as preparatory to a reconstruction of human being, supposing the theory of the fall to be true, and implying, therefore, a final revelation of him in a future state of perfection, should not absolute evidence of such goodwill be beyond doubt, with the additional proof also of a future and perfect state? Reason says such a course would have been, at least, a just and not a superfluous one, or why do we think or reason at all?

That there is no proof of either the one or the other in Scripture or experience is admitted by all the higher critics, or at least by the most thoughtful of them. If there be a Creator, there is an infinite chasm between Him and His creatures, which the theory of "original sin" only intensifies in depth and darkness. We repeat: If there be a Creator, or, as Scripture puts it, a "Father," our reason says there should be neither chasm nor bridge, but a natural way of access to the privileges of parental relationship. True relationship resents arbitrary obstruction to intercourse. If man is a spiritual being, he is so in virtue of his relationship to a Spiritual Being. Surely, then, man's spirit should know its Source, and neither be prohibited nor orphaned. Should it be more difficult for a man's spirit to identify its Parent Spirit than for the latter to lodge it in His offspring's material form? It would seem so, since Parent Spirit is Unknowable. There is a fault somewhere, on the one side or on the other. If on man's side, is it fair to hold the creature and the weaker absolutely responsible for what could *have been prevented* on the theologic thesis of infinite

goodness and mercy? But we think there is a rational solution of the problem of discrepancy. The "innate" theory of God, which logically is equivalent to the theologic concept of God, we think is entirely chargeable with the conflict between reason and faith, or the chasm between the Creator and His creature. Cause and effect in antagonism is absolutely impossible. God and His creation or Divine Cause and effect could not be antagonistic if a Divine Cause existed. Because theology and religion are of the heart rather than of the head, the human mind is still possessed by doubt and confusion. The arrogance which proceeds as the first-fruit from a system of faith, or mere credence, becomes tyranny; and the superstition bred therefrom must take refuge in a fancy or an emotion which stifles or distorts the natural voice of nature. The vagaries of theology are more than mere harmless fancies. When critically examined, they are found to dangerously excite the emotions, and, while operative, they wield a mesmerist's dominion over the reason. What does such influence suggest? Scripture and theology acknowledge the chasm between the Creator and the creature. They admit that it is infinite, but they also say that it can be bridged by faith. They account for it by their favourite method of the imagination—namely, that an external demonism attempted with signal success the alienation of Creator and creature or Cause and effect. The source of this triumphant demonism neither Creator nor creature professes to understand. In short, Scripture merely relates the childish fable, and theology attempts to define an impossible theory of an impossible rupture of an Absolute Power into two antagonistic Absolute Powers. Did some malevolent diplomacy prove mightier than the Almighty? We repeat: In trying to solve spiritual phenomena, which for the greater part are mesmeric,

we must apply the critical or judicial method which deals with actualities. The solution, therefore, cannot lie in the interpolation of spiritual phenomena, so-called, into physical realities, but in natural and normal operations intrinsic to the constitution and properties of matter. Further on we shall have occasion to criticise the delusions which are called *spiritual phenomena*. Meanwhile, our aim is to expose the mental chaos which religion or a belief in the supernatural has produced, and which can be reduced to cosmos only by science dispelling the false by the true. We hope to be forgiven instances of repetition, which are unavoidable in a discussion of this nature.

† While it is relatively true that man is neither ephemeral nor exceptional in existence, it is certainly true that he is a natural and physical phenomenon. We mean by phenomenon something that appeals to, and can only appeal to, the physical senses. Man himself is testimony, through all the stages of his development, that these terms, in the main, are descriptive of him.

✕ All natural phenomena are groups of orderly sequences inseparably related. Since sequences are invariable in change and succession, they must be inevitable; and ✕ since their material media are indestructible, change and succession must be eternal. The only thing in the universe that needs no demonstration that it is a concrete fact, possessing a history as remote in existence as ✕ a First Cause, is the material universe itself. We define Materialism as the reason or cerebral fact of matter, since the human mind or mental mechanism is one of its chief products; therefore, the human mind is disqualified by ✕ its nature to believe in an Unknowable. To reason from the unknown down to the known is an ideal and favourite custom of theologians. The attempt is neither better ✕ nor worse than trying to build a castle in mid-air, or to construct it in fancy, and assert it exists in fact. Our

argument will ground itself on the eternal fact of matter, not in virtue of a creative idea, nor as co-equal in duration with a Creator, but in virtue of its own fact. We appeal to this eternal fact all along the course of our discussion, since there can be nothing outside infinite matter; and nothing but its own substance has ever been found within it.

Hydrogen, nitrogen, oxygen, sulphur, carbon, ammonia, etc., are the chemical elements which science recognises as constituting the earth; its products, its inhabitants, and its atmospheres, with the consistent combinations of its various forms of force and matter, in the aggregate sum-total, form cosmos.

The universe is an infinite, chemical, mechanical, and complex system of matter. Our planet is a miniature or microcosm of universal and eternal matter. Matter is an infinite mass of atoms or molecules.¹ Atoms are, in themselves, indestructible—at one time in one form, at another time in another. At one moment they are forming a human being, the next a plant. These become disintegrated, and again integrated into groups of molecules, cells, to form beasts of the field, fish of the sea, fowls of the air, or man. There is no death among molecules, as there is no birth.

Matter is eternal. Its essentials cannot be changed. There is no power greater than its own whereby it could be changed. At most, sections may be modified or intensified in their degrees of chemical activity, but the constituents of matter are unchangeable—are eternal. Space is an infinite circle. As eternity—which is the absolute definition and equivalent of matter—space has no parts by which measurement of it is possible. Distance, or nearness, as applicable to celestial bodies

¹ Frederick Hovenden, F.L.S., F.G.S., F.R.M.S., *What is Life?*

in space, has no real significance; it is only an auxiliary to our observation or knowledge of them.

As a unit among infinite world-units in space, our planet, as an individual mass, is a self-coherent integral mass of molecules conditioned in space by gravitation and ether. Atomic matter intrinsically attracts atom to atom in conformity with their atomic-chemico affinity. Every atom is a vital nucleus. Vital matter is the unbegotten substance of the planetary system or star-matter that constitutes not alone the solar system, but the illimitable system of the universe. Human units, as well as all creature units and things that have being, exist under the same laws, and conform in the same manner to the essential forces that regulate the material universe, attracting, repelling, gravitating into social or consistent groups. Thus, also, communities and nations differentiate along the cosmic lines of attraction and repulsion, each developing the characteristics that determine their type and sphere in existence.

In conforming to the extrinsic forces that determine and control them, human beings, with all things that exist, are absolutely subject to the eternal energy intrinsic in matter. This energy is impersonal and mechanical—it is the fluid vitality of the universe in eternal circulation. Thus there is a common eternity to all matter in space, and a common origin to all living forms.

Astronomers at one time called the apparent chasms that separate celestial system from one another gaps of empty space. This they did from want of knowledge, and also from defective apparatus. We know better now, though still infinitely less than future generations will know as instruments of observation become more and more perfect. Space is merely another term for infinite fullness or completeness. Without space there could be

no matter, without matter there could be no space. Space being infinite, matter also must be infinite.

The phenomena of solar meteorites, boreali, nebulae, and the immeasurable and unplumbed depths of atomic matter, have finally dispelled the idea of gaps or blanks in space, or even as between molecules of matter. Where there is not solid or infinitesimal matter, there is imponderable elastic substance—ether—which is a form of matter. Once in every third year, in November, there is such a display of meteorites that tens of thousands are visible in a single night. The meteors in that ring or system have their year of thirty-three earthly years, and once in the course of that long year our earth's orbit carries her deep into their centre. In this single November ring there are myriads upon myriads of meteorites spreading through solar space. Yet this system of dissipated matter is being drawn to some concrete central mass, and is only one among countless others. There is no reason to suppose that these flaming streams of matter cluster more profusely about the earth's orbit than in other parts of the solar or other planetary system. The rings of Saturn are probably wholly formed of meteorites, millions upon millions of them whirling round the planet in a regular orbit-belt lit up by the sun's rays. It is also believed that the meteoric family cluster more and more thickly in the near neighbourhood of the sun himself, rushing wildly round him, and falling by myriads into the ocean of flame upon his surface. If this be so, they may serve in part as fuel to feed his mighty solar furnace. Through all space-depth, then, there is continuous matter. This space-depth is ever effulgent with suns and reflecting systems, from sun-centres of inconceivable magnitude and in infinite numbers, to the diamond dust of countless meteorites that swim through space. As pools, lakes,

and oceans are literally alive with animalculæ and other innumerable forms of life, these rings or families of meteorites may be called, not inappropriately, cosmic animalculæ in space.

Systems formed, and others which are ever forming in space in natural and orderly sequence, perform each their own individual life-work, die, and are no more what they were. They are not created when they appear, and are not lost when they disappear; but offspring worlds grow from the scattered dust of dead and disintegrated orbs into concrete systems, each finding its circle in space which is never empty and never overcrowded. Their life course is the same as that of the meadow flowers, the woodland choristers, and of man himself. Thus the intrinsic chemical properties or energies of matter are eternal and self-restorative. Their order is cyclic. Periods have no meaning or application as denoting limits to the existence of matter in motion, but only to distinctive although ephemeral forms of matter.

Inorganic systems become exhausted after the manner of all organisms, and successive systems from their exhausted matter appear in like manner and order as new organisms spring out of those that have become spent. The chemical activities of matter are not *supernatural*, not imported or inoculated into it. They are intrinsic to matter, and are ceaselessly converting spent matter into forms which these intrinsic qualities naturally and in the order of sequence evolve. Thus, there is the ultimate or eternal ever beyond the re-constructed but ephemeral; the disintegrate and the integrate, the inorganic (so-called) and the organic, in eternal succession. Degeneration and regeneration provide the occasions and conditions of perpetual vitality and fertility. Degeneration sets loose all concrete combinations of matter that have exhausted their specific

functions and their organic relation to environing organisms—*i.e.*, other unexhausted matter or organisms. All combinations of matter are temporary. The process of exhaustion and absorption of exhausted bodies by other vital bodies is simultaneous, and is identified with the reconstructing process.

Thus, all matter is in a condition of perpetual change of growth and decay. It is the intrinsic law of organic being, vegetable and animal, and even of matter commonly called inert, that individuality must cease from being individual. Vital or conscious correspondence of the individual with environment has its limitation, which, when the time comes, must needs be extinguished that another order of activity may be allowed to do its work of pulling down. There is no death. Death does not exist. There is no such principle or law in the universe.* There cannot be a suspension or extinction of life, but only of its specific form. The individual form that was returns again to what it was before it had form or individuality.

That which is called death is a diversion of energy from one specific or concrete form of activity to another. Life or motion is eternal. Thus, for a period live stones; vegetable and animal organisms live and are, and in a brief period are resolved into their ultimates, but their substance is of the universe, and is used in its cyclic processes of growth and decay. Silently, but inexorably, by a chemistry that flags not nor blunders, the cyclic processes go on. Unlike the chemist's, Nature's works are done in silence; her alembics are sweet; her laboratories are in every living cell, in every individual, every molecule—her very refuse sends out a glow of autumnal prophecy. Regeneration takes up its work when and where degeneration begins. From the atoms, again, through molecules and cells, it builds up the

gems that decorate royalty, the gold that rules the world, the iron or steel that sheaths our battleships, and the food that feeds a world. The universe is an infinite cosmos of vital motion, and in its infinite parts there is an eternal history of eternal variations. All these infinite parts are governed by the relation and position which each sustains in space to the others. Mutual attraction and repulsion are the orderly agencies by which relative positions are held in equilibrium. Thus, universal motion means eternal self-renewal, cyclic ebb and flow, cyclic chaos and cosmos. These are not caused by two forms of energy in collision, but by the same energy under two aspects. We see the ocean now in tempest, now in rest—the ocean remains, although its waters change by the chemistry of an energy that is omnipresent and incorruptible.

We are doubtful if selection is the fittest term to describe the mechanical process of matter that secures the continuity of organic life. But since it was the chosen term of most of the great modern scientists, and is now accepted and understood as they employed it, we will use it in its accepted sense.

Selection, or "Survival of the fittest," is an intrinsic, co-ordinate function or principle of matter itself. It could not, at any period, have been introduced into matter as a working principle from any external source. Darwin has finally established the doctrine of the "Survival of the fittest." The operation of this function as intrinsic to matter, which secures the fittest media or means to ends, cannot any longer be doubted. It is unquestionably a co-existing attribute of matter which determines the continuity of life-forms, as well as secures the evolution of new species and varieties of species.

Development advances from the simple to the

complex. Once that principle in nature is really understood, the mind is prepared for the suggestion of boundless possibilities of forms, and, therefore, for the incarnation of the infinite resources of the vital energy. The mode of action of the law of the "Survival of the fittest" in inorganic matter (so-called) seems to be, in planetary life, by gradual exhaustion, and in the life of sun-centres by violent disruption, as contrasted with the silent and involuntary division by the primal organisms of themselves into separate individual organisms. Masses of matter, it is known, can only reach a certain limit of magnitude and density, at which limit they seem to attain maturity, when—like the monera Protista—primary organisms which are self-propagating by dividing themselves into parts—they discharge, under intense internal agitation, lesser masses, which form new worlds to begin a career for themselves. This internal energy (in conjunction, of course, with external) becomes surcharged when the maturity or complete period of its material limit is reached and disruption and discharge follow.

This process of disruption and discharge secures two vital and cosmical issues—namely, the necessity of relief to restricted energy, and the conservation and conformation of the dispersed matter. All mass-centres of matter are under the like necessity of growth, decay, and reconstruction, in essentially the same way and for the same reason that human beings are, or anything whatever that has form; they come into existence for a period, decay, and are incorporated in other forms or systems.

Those mass-centres are held in their orbits, both by their own force, in conjunction with the greater forces of still larger masses, and also by the lesser forces of smaller masses than their own. Thus the action and

inter-action of the celestial bodies occasion the gradual exhaustion of some, and the violent disruption of others, in order to the perpetual reconstruction of succeeding bodies. These two forms of universal force remain for ever relatively equal—*i.e.*, bodies organic and inorganic derive their equilibrium from other bodies, or, in plain words, from intercourse with their neighbours; and they reproduce, in accordance with the same principle of degeneration and regeneration by which all organic forms are brought forth and perpetuated. This process is going on at this moment amid infinite space, where worlds are ever seeding and systems are ever decaying and growing, never in excess and never in scantiness. It is going on in our own gardens, in the dust we tread upon, which is ever going and reappearing in fertility and beauty, making the earth glorious for man and beast to live in and enjoy.

This process cannot be meddled with by any imaginable power. Were this by any means a possible contingency, the universe itself would not be safe. Our own solar system is a sublime demonstration of the economic and cyclic processes and equilibrium of the universe. Motion or cyclic continuity secures the means and methods by which universal matter and organisms of infinite variety are produced. Two specific forms of cyclic motion—absorption and restitution, or taking and restoring—maintain the universal fabric in absolute balance and order.

It is not our intention, even were it necessary to our purpose, and we were qualified, to examine into the silent and subtle operations of magnetism and gravitation; how each, in conjunction with other natural forces, secures the order, stability, and continuity of worlds; the infinite numbers and forms of life, their unfailing *succession* except when fitter forms take their place, and

the general and progressive happiness of creature life. Were the happiness at least of the greatest number not secured to them, the procreative desire would cease, and evolution would be arrested, because the objective aim in living would have gone. Happiness and the desires which promote it—i.e., all sensations or passions—are only forms or expressions of the vital, uncreated, imperishable energy of the universe. Nor can we wait to take notice of the modern discoveries of the spectroscope and many other recent appliances of science. Our purpose is to survey the concrete fact of matter in its discrete action, and the significance which that fact ought to have for us. It must never be forgotten that the principles or functions briefly glanced at are the intrinsic attributes of matter, co-ordinate with matter from eternity, since neither they nor any others could have existed antecedent to that of which they are functions. Energy is not abstract, because it is not self-existent. It exists only in, and by, or with matter; not potentially merely, but intrinsically. It is absolute as co-existing with matter; or, to put it concretely, energy is matter in activity. Without a medium energy is inconceivable. Potentiality without potency is the equivalent of energy minus matter. Electricity, for instance, is fluid matter. In a lecture delivered recently by Professor Sir G. G. Stokes, at which the Prince of Wales, now King Edward VII., was present, it was shown that electricity is pure matter, and, like all matter, is resolvable into its ultimates. Mere energy, then, could not have originated matter, but it demonstrates, if not the identity, at least the inalienability of matter and energy.

“Universal energy,” says a modern writer of note,¹

¹ S. Laing, *Modern Science and Modern Thought*.

"is declared to flow through every atom of matter, solid, gaseous, liquid, throughout the infinite area of the boundless whole. Take the minutest particle of matter which the eye can see. That itself is a whole universe in miniature of energy. Within its boundlessness molecules are vibrating, darting from side to side with inconceivable velocity all the time. The like is going on in every particle of matter, from the spot on which we stand right away to the stars where light takes 10,000 years to reach us; and, on so far as 10,000 times beyond that, motions are continually passing from end to end of the universe itself. So that every stroke of the pen I make in writing these pages, and every vibration of the air you make in shaping the spoken words you utter, goes forth on the wings of ether to those far-away moons and suns. It is all one whole, pulsing with one beat, yet ten million beats in every hair's-breadth, transfusing themselves through the total mass unceasingly." If you could construct a contiguous circle of magnets or poles, within sympathetic conditions, geographic and atmospheric, the result would be perpetual electricity within that circle. This perpetual electricity does, in fact, exist. The infinite units of matter and organisms are the poles, or cyclic magnets, through which and round which circulates eternally the vital energy or electricity of the universe. Thought answering thought is perpetual electricity. The units of matter are sections of an infinite circle of matter united by discrete shoals of impalpable or molecule dust bridged by intrinsic affinities, within which are minuter cyclic systems, in and through which circulates perpetually the vital fluid of the universe.

Many who may willingly concede that space is infinite may be unwilling to admit—not because of any disqualification of mental faculty, but from never having

thoughtfully studied the question—that space is impossible in *itself*. But their intelligence might resist as incredible the statement that space itself is an infinite amphitheatre of living matter. We are insistent on this, and will not hesitate frequently to repeat it in these pages, since in a clear apprehension of this great material truth lies the only hope of approximating to anything like an intelligent conception of what matter approximately means. There cannot be, and there could not be, unfilled space. Space itself could not be, except as it is co-determined with matter. If science has not yet quite demonstrated this, there can be no doubt of its ability to do so. Matter and space may be considered relative and equivalent terms, since they must have been co-eternal and co-related, constituting the universe. They are two aspects of one fact. The sciences of chemistry and physics prove this. If this were not a fact, these sciences would cease to exist. Matter and space are as closely related, and are as really one, as mind and body; they co-exist, or they do not exist. To say that space existed antecedent to matter, as some do, is as absurd as to assert that the mind of a man existed before his body. Space and matter are so interchangeable that it is impossible to think of the one without the other. Science may yet find out that space is not merely *that* wherein matter exists, but that it is actual matter. This is our own belief; and we anticipate a not far-off time when the term “space”—for the reason given—will necessarily drop out of use, having no true significance.

By a figure of speech, we apply to planetary motion the term “time,” and divide motion into days and years; but to say of space that it pre-existed matter is to say that eternity pre-existed eternity. The special creation theory, then, must be abandoned. A mind trained to reason for the truth, and not for mere dialectics, cannot

help arriving at the issue presented when dealing with atomic or molecular potentialities. Mr. S. Laing says¹:—

These are the sort of difficulties which have led the scientific world, I may say universally, to abandon the idea of separate special creations, and to substitute for it that which has been proved to be true of the whole inorganic world of stars, suns, planets, and all forms of matter.

The idea of a special creation (whatever that may mean, and behind which we cannot go) of ultimate atoms or germs is so inadequate, intrinsically, that it cannot carry within it any solution of the phenomena of the universe by a necessary process of evolution.

The law of progress or of perfecting establishes the exceedingly important fact, derived from palæontological research, that in the successive periods of this earth's history a continual advance towards greater perfection of organic forms has taken place.² Since that inconceivably remote period in which life in our planet began with the spontaneous generation of monera, organisms of all groups, collectively as well as individually, have continually become more perfectly and highly developed. The steadily increasing *variety* of living forms has always been accompanied by progress in organisation. The lower the strata of the earth in which the remains of extinct animals and plants lie buried—i.e., the older the strata the more simple and imperfect are the forms which it contains. This applies to organisms collectively, as well as to groups and individual organisms, setting aside, of course, those exceptions which are due to the process of degeneration, which we shall discuss hereafter. If we follow the historical development of the vegetable kingdom, we shall find the same law operative there.

¹ *Modern Science and Modern Thought*.

² Professor Ernst Haeckel, *History of Creation*.

The whole series thus constitutes an irrefutable proof of the great law of progressive development. We can trace the same thing in the history of the human race. If man wishes to understand his position in nature and comprehend as natural facts his relation to the phenomena of the world cognisable by him, it is absolutely necessary that he should compare with extra human phenomena, and, above all, with animal phenomena.¹

Comparative anatomy shows us how the individual organs and systems of organs in the tribes of vertebrate animals, in the different classes, families, species, have unequally developed, differentiated, and perfected themselves. It shows how far the succession of classes of vertebrate animals from the fishes upwards, through the amphibia to the mammals, these again from the lower to the higher forms of mammals, form a progressive series or ladder. In all these natural and physical operations there is neither need nor room for a theory of the supernatural. Those who are not satisfied with the demonstrations of our present empirical knowledge of nature as the foundation of the fact of descent will not be convinced by any other facts which may hereafter be discovered. Palæontology has opened up the pages of the evolutionary history of life in our planet, and shown us, without a doubt, the total absence of any activity whatever, except the intrinsic and mechanical process of natural law. Physiological facts show us how adaptation, nutrition, inheritance, and propagation, together with substance and growth, explain vital phenomena, and trace them back to the laws of physics and chemistry.

The psychological facts; the phenomena of soul-life in the wider and narrower sense, in the cell-soul of the Protista as well as in the brain-soul of the Histons; the regular occurrence of organic irritability in all cells, and of will activity, sensation, and consciousness: the mechanical explanation of all these activities of the soul is offered by the monistic psychology, inasmuch as it assumes the cell-soul of the Protista as a

¹ Ernst Haeckel, *History of Creation*.

foundation, and derives the composite soul-functions of the Histons from it, according to the fundamental principles of cellular psychology.¹

If we substitute for the special or "original creation" theory, the theory or fact of spontaneous generation and subsequent evolution, we shall arrive at a rational or scientific explanation of what physically did take place during the early periods of our earth's history. Why object to a scientific as against a supernatural theory?

Martineau has put the question: "What, indeed, have we found by moving out of all radii into the infinite? That the whole is woven together in one sublime tissue of intellectual relations, geometrical and physical, the realised original of which all our science is but a practical copy. Unless, therefore, it takes more mental faculty to construe a universe than to cause it, to read the book of nature than to write it, we must more than ever look upon its sublime face as the living appeal of thought to thought." This is the reasoning of the orthodox or religious mind. It seems easier for it to accept in faith the theory of an infinite, supernatural, or immaterial cause than to believe in an infinite, natural, or material eternity. Martineau's reply to his own question only leaves the problem of creation in the special theory region. It is philosophical rather than scientific, and therefore settles nothing. We cannot "move out" of the material infinite into another or supernatural infinite to find testimony. We have never been out of the infinite—we are in it *now*.

Every human unit is one of an infinite number of complex units. Each unit of matter, organic or inorganic, finds its own sphere, not by fortuity nor by Martineau's "sublime tissue of intellectual relations," but by the eternal and invariable affinities of the vital

¹ Ernst Haeckel, *History of Creation*.

chemical matter of which it is constituted. The laws of physics and chemistry prove this. Chemistry cannot err. Mere credence, as well as philosophy, is helpless before the authority of science. The affinities of matter are magnetic material properties, and are among the most, if not the most, potential and immutable of material forces.

The laws of absorption and distribution, or attraction and resistance, by which matter is degenerated and regenerated, are media by which units, great and small, attract and coalesce with other units, and by which each derives from the other the chemical energy, development, and physical conditions which issue in and determine new and successive forms, and secure the decadence of forms which once were new. Thus, reciprocal action operates within an eternal circle rather than from an eternal centre, and secures throughout the universe infallible precision and efficacy. This process is a cyclic and mechanical one. It has no beginning, and can have no end.

Martineau argues on a fallacy when he speaks of "causing a universe," or "writing the book of nature." These are the terms of a theologian—the vain flutterings of a poet whose imagination takes advantage of his judgment, and who, in his eagerness to dispose of a difficulty, takes refuge in transcendental flights. It is ever thus: theology speculates, science perceives. The one has no rest for its wing, for there is no rock rising from the depths over which it soars; the other, notwithstanding its unwearied pursuits, reaches and rests awhile at each stage of eternal fact. "What cannot be known" is a convenient phrase of the idealist, for it gives boundless scope for the exploits of fancy and superstition. All that is may be known, and will be known. The right opportunity and the right method are all that are required. All things await manifestation. The laws, *

processes, and facts of the universe invite study; nor will they remain sealed to any who truly search for them. That which exists, yet cannot be known, is a contradiction in terms, for, since existing, it is in the condition to be known, and therefore will be known. Human knowledge may be in embryo, and relatively, as human knowledge, it always will be; but it is knowledge and microcosmic, the possibilities of which are as unlimited as the universe itself—are known to it, and are therefore communicable to all its units.

The universe as an infinite fact could not emerge from infinite nothing. Every phenomenon is the sequel of an antecedent one, and all phenomena, therefore, are cyclic or eternal successors to antecedent ones. Matter is eternal—the universe was not caused. The desire or instinct to know, so that there should be no unknown, is not confined to man. It is intrinsic in all forms of existence. It is the vital energy of the universe embodied in infinite material forms and ways, yet pulsing unceasingly in such way as each specific form requires, with the eternal motion of the infinite energy. The springs of this desire are in the affinities of part with part, reigning in all the infinite parts with the infinite whole.

We reason that the attribute of the universe, as a whole, cannot be excepted from the part. Thus, each part or unit is a miniature universe—a living, active, conforming entity of the infinite—for ever expressing variously, but generically, its incorporation and identity with the universe.

Matter exists in space; space is eternal; therefore matter is eternal.

To apprehend what that means, we must forget time as an instrument of measurement, and remember that time is purely a human conception derived from our earth's motion in space. As our conception of space and of motion in space arises from perceiving infinite

bodies of matter in motion, so our conception of time is derived from the fact of motion, and particularly that orderly motion among celestial bodies the regularity of whose revolutions suggests the continuous cyclic motion called "time"—a term which facilitates a knowledge of their existence and motions. The circuit which our planet periodically makes round the sun we call a year, because it is $365\frac{1}{4}$ circuits round its own axis, each of which we call a day of twenty-four hours. Our entire system of measurement is derived from the earth's motion. Time and distance are deductions from the earth's speed at the equator. In each beat of the clock a fixed point or mark at the equator moves in space about five hundred yards. If we say something is done in a second of time, all that is meant is that the thing is done during the period that a point at the equator moves a certain distance or part of space, which is a little less than a third part of a mile. This is our standard of time and distance. It is a human expedient to classify terrestrial and celestial motion. Time, then, may be defined as the symbol of cyclic motion in day and night, and periodic seasons. Actually there is no time as quantitative in meaning. The earth is our fundamental clock, and matter solves eternal motion.

Matter consists of measurable but minute objects, called atoms. Atoms are discrete as distinguished from concrete units, and combine to form complex units called molecules. Molecules attract others like themselves, and unite to form cells. The grouping of atoms and cells forms a concrete mass, or a mass of atoms of matter.

These are the great facts which are at the bottom of all knowledge of the phenomena of matter. We cannot get away from them. The science of chemistry and all the sciences are built thereon. The existence of atoms

and cells, and mass matter, indicates chemistry at work. In other words, the attractions, repulsions, motions, ordinations of the ultimate particles of matter, are forms of the eternal energy of matter chemically at work, and in evolution; and every issue is the absolutely related sequel or product of what went before.

If you take a lump of loaf sugar and crush it in a mortar, each of the fragments will remain a particle of loaf sugar still. Grind those particles until they are reduced to the finest powder, and each particle is still sugar. The only difference is one of dimension; there is no other. If, by some superfine and perfect process, you could still further powder these particles so that each could be discerned only by the aid of the microscope, these particles would still be nothing else than sugar. But suppose these microscopic grains divided a thousand times—of which they would be capable—until subdivision is impossible—that is to say, until you have produced an ultimate particle of sugar, and it is divided into two parts—as it might be by chemical processes—then neither of these two parts would be sugar. They would be molecules. By the aid of chemical reaction, which is a natural force, the molecules can be reduced into the primary or elementary objects called atoms, of which they are composed.¹

This same process may be applied to every other substance. Atoms are eternal. There is no degeneration among atoms—they are imperishable. Molecules, or cells, are built up of atoms. The potentialities of atoms attract each other, and, by overlapping, become concentric, or centres of momentum. They are of variable forms and dimensions. The difference in dimension is due to variations “of the quantity of ether held by them at a given moment, and is what is called the *temperature* of the atom or molecule.”² Both *ether* and *molecules* may be brought to visual demonstration, may be *seen* under conditions which it has been a main endeavour of scientists to devise.

Chemistry is still in a rudimentary condition. When

¹ *In the High Heavens*, Sir R. S. Bell, D.Sc., LL.D., F.R.S.

² *What is Heat?* F. Hovenden, F.L.S., F.G.S., F.B.M.S.

its laws and scope are better known, and the microcosmos magnified, as it will be, far beyond our present vision, there can be no doubt that the anatomy of molecules will be ascertained.

The physiology of molecules, then, is something to be hoped for at no distant date. Chemistry can tell how many atoms of each species the molecule is composed. More than that even, it can take the atoms, put them together, and actually reproduce sugar.

The synthesis, or putting together the atoms to form the organic molecule, which, in the ordinary course, is a vital process, has now been effected in the laboratory of the chemist in about 180 instances. Thus we can destroy the molecule and create the molecule.¹

But neither chemistry nor any other power can destroy X or create an atom. Atoms are eternal. No instrument can be devised delicate enough to divide an atom. Thought cannot conceive an edge so fine, or so keen, as to even touch it. It is beyond injury, impossible of destruction. It is not impregnable, because it is of material composition. It is not spiritual or super-physical. It is pure matter, and has in itself all the potentialities that distinguish universal matter. Thus does the infinite fabric of the universe endure, and immortality reign. When we say atoms are eternal, we do not mean that they are exempt from degeneration—like all matter, they also change. Their structural individuality is subject to the law of degeneration and regeneration. But matter is alive from eternity. X

Some scientists—notably Lord Kelvin—still believe in inert matter. It is an untenable hypothesis, antagonistic to the constitution of matter and physical law, and due chiefly to the discovery of argon, neon, helium, etc. The most recent discovery—namely, radium—completely extinguishes Lord Kelvin's theory. In order to

¹ Hovenden, *What is Life?*

be consistent, the scientists referred to extend their hypothesis to atoms. A few even anticipate some remarkable discoveries based on the hypothesis of the presence in the universe of inactive atoms. The ubiquitous ether, the concurrent laws of gravitation and magnetism, the perpetual action and reaction and cyclic movement of matter, are all against the hypothesis. A unit of matter is constitutionally sensitive to the laws of conjunction with other matter. Lord Kelvin, in his theory of vortex motion, has proved not only the atomic fact, but he has shown that all properties of the atom, except gravitation, may be represented by the vortex ring. A vortex ring, as represented by Lord Kelvin, is an ordinary fluid, such as air—a portion of the fluid separated from the rest by a rotatory movement. Of course, such a ring is invisible, for it differs from the surrounding air in nothing but its rotation. It can be made visible, however, by adding smoke to it, and it is then seen to be revolving rapidly as on its own axis, as well as being in direct forward motion as a whole. Such a ring, of whatever size, is a true atom. It cannot be cut. The thing wriggles past the blade, and yet it behaves like a solid body, and, striking against the wall, will rebound and oscillate.

These smoke rings can be easily produced by frictions between the air and the sides of a passage through which it is driven, and are even shot out from the funnel of a locomotive or the bore of a cannon.

In a frictionless medium a vortex ring could not be started by any known method to man; but, once started, it could not be stopped except by an act similar to that which occasioned it.

According to Lord Kelvin, "the primitive fluid is the only true matter, yet that which is called matter is not *the primitive fluid itself*, but a 'mode of motion' of that

primitive fluid." It is the "mode of motion," he says, "which constitutes the vortex rings, and which furnishes us with examples of that permanence and continuity of existence which we are accustomed to attribute to matter itself. The primitive fluid ('the only true matter') entirely eludes our perceptions when it is not endued with the 'mode of motion' which converts certain portions of it into vortex rings, and thus renders it molecular." In this theory the mass of bodies requires explanation. We are not sure that the explanation by Lord Kelvin is either satisfactory or scientific. Inertia is thought to be a property of matter which is known not of itself to be "fluid," but to be subject to a "mode of motion" by the "primitive fluid" energy. What is the inertia of "the only true matter" which Lord Kelvin describes as a "mode of motion"? Does he mean that the "primitive fluid" ("the only true matter") is the only active centre brought to visual demonstration and productive issue by a conjunction of fortuitous molecules which are "not real matter," but are merely "what is called matter," which in virtue of itself is inert? In other words, were these inert bodies of matter attracted by, or did they attract, atoms? If the former, they could not be what Lord Kelvin says they are in themselves—inert; if the latter, whence came they—by inertia, or by "modes of motion"? How can a condition of inactivity ("inertia") have "modes of motion"? Again, to attract, or to be attracted, demonstrates mutual affinities or some common likeness or mutual need; and as attraction is not an exclusive force, but suggests something to be attracted, and must, therefore, be a co-operative principle, it seems to us that Lord Kelvin's atomic "mode of motion" of what is "not matter," but only called matter, is not merely atomic, but belongs also to all massed substance which is matter. Lord Kelvin's

theory is not an original one. Aristotle's theory of matter with two aspects—matter and life, the former inert, the latter active—is not unlike Lord Kelvin's atom and inert matter theory. Lord Kelvin attributes to atoms the property of "mass." Does he mean "mass" of atoms, or "mass" of what? If atoms are extended and occupy space, and are that of which all matter and things exist, or if they enter into and are the real substance of matter and material things, and cannot be serviceable, except in conjunction with what we "call matter," it seems to us that Lord Kelvin's definition, after all, is a distinction without a difference. It is true that a vortex ring at any given instant has a definite momentum or specific energy; but to prove that bodies built of vortex rings have such momentum or energy might be a difficult, if not an impossible, task.

- Gassendi held that atoms are all identical as to substance, but different in figure. Others have held, and for simple reasons, that they are different in quality, but have the same shape. Epicurus held that nothing must
- be attributed to them but size, figure, and weight. Tyndall speaks of them as classed together. Our own opinion is that atoms do not vary either in shape or
- quality, since there is nothing conceivable to cause variation. For purposes of classification, however, it is expedient to admit their variable qualities. Giordano
- Bruno, who was burned in Rome in 1600, says:—

What first was seed becomes grass, then ear, then bread, chyle, blood, semen, embryo man, a corpse; then, again, earth, stone, or some other mass, and so forth.

Here we perceive a force in perpetual cyclic change, but still ever remaining the same force.

Thus there really seems nothing constant, nothing eternal, nothing worthy of being called a principle, but *matter* only. Individual immortality, were it true in

respect to organisms, would, in a comparatively short period, exhaust the matter composing our planet, and mankind would speedily cease being born into a vanishing world. The reason is obvious, since the supply of matter, which is the primary necessity of existence, would cease were the inorganic system endangered by a deportation from it of individuals at dissolution. On the other hand, were the reinvestment of individuals postponed for a general resurrection, it is plain that there would be insufficient matter to meet the demand. Regeneration would be ineffectual were degeneration inoperative. Of course, it will be obvious from the above that we believe that nothing exists but matter; and, therefore, an immaterial or spiritual immortality, to our mind, is impossible. Of this farther on. Matter, considered in the absolute, comprises an infinite variety of form and dimension. But these have not been the result of any external agency, distinct from, or supplemented by, other formative power than its own. Its own potentiality is an eternal energy, underived, uncommunicative, since there is only its own existence. There can be no *beyond* to matter. Outside of matter is an unthinkable term. Matter and space are infinite.

When we speak of death, what do we mean? In the popular sense, death means that the person has ceased to live in the body, and the body has ceased to be active or vital—the truth being almost the antithesis to the popular idea. Death, in the popularly understood sense, is a physical impossibility. The word “death” was coined at a time when men were ignorant of what life or motion meant, and before science revealed its essential non-extinction, although it revealed also its essential re-action—erroneously called death. Matter, under any or all conditions, is eternally alive. Death, so-called, is a divergence of the eternal energy. It means that the

correspondence of the individual, or that form of consciousness with the external world, has ceased—not that the life or energy intrinsic to individualised matter has ceased. The organism itself ceases to be individual, since its immediate functions, as such, fail. The organism, instead of answering by acting in one way, merely answers by acting in another way. Energy, instead of building up by death, pulls down. It is the identical life dissolving the organism instead of building it up. Brain matter or residential individuality ceases to act when the network of nerves ceases, as it must, to keep in vital touch with external constructive agencies. The defending or up-building corpuscles in the blood become spent, and give way before the offending or down-building ones. The latter have no evil intent, but they merely take advantage of the former's weakness to begin the work of reconstruction—*i.e.*, by the re-action downward of the vital energy. And so the organism goes back again to its ultimates for a new start. There is no destruction, no waste in the process. The resultant is the eternal—the real matter, not spirit. The only identity that is eternal is the identity of the ultimates.

By experiment it is shown that elemental substances are in being when they have passed from perception; also, that forces imponderable and immaterial are present, although unseen, existing in matter yet unembodied, presenting effects, using matter as the vehicle to make their display.¹

It is somewhat of a coincidence that, since the above was written, the “immaterial, unseen, unembodied” forces have been discovered to be pure matter. Those forces are ether and electricity, which are now known to be forms of matter. From the standpoint of science we can understand how such a statement as that quoted above was possible. Ignorance of matter and physical

¹ Sidney Billing.

laws has played many freaks with reason. What could not be understood because of the want of true evidence was made resolvable in the unseen and supernormal. It was the habit, in order to explain a mystery, to lose it in a greater.

How can "forces immaterial and unseen" be cognisable to justify the statement that they are "present existing in matter," and still be incapable of "perception"? Chemistry can operate only on matter. The senses cannot convey "immaterial" sensation, but those only to which they are sensitive, and to which they are chemically related. We are not aware that a human spirit has any chemical quality, or has been chemically analysed. Material or physical impressions can only be the sequences of corresponding or antecedent motion.

The moment the determinate is departed from, infinite scope is opened up to the imaginable, and the wildest fancies may be conjured into credibilities. Farther on, in another connection, we shall discuss "the unseen forces" at some length.

Both the chemist and the physicist fail, as we have said, to destroy atoms; but their groupings and molecules also can not only be dispersed, they can be destroyed as such. Every species of atom has its inherent properties, not only specific potentialities to form combinations, but also specific molecular powers even after combination. Each kind of atom and each kind of molecule has its own specific forces. Among these and others is the force of attraction; and the maximum force of attraction is the law of gravitation—that principle which secures the equilibrium of universal matter in space. Every unit of matter, every living thing, vegetable and animal, which appears and disappears in change, co-operates in and reciprocates the universal law of gravitation. Everything forms a circle of attraction subject to another

greater in potentiality. Intrinsically and extrinsically, existence literally hangs together by gravitation. All matter is cognisant to itself. Matter-sense or sequence, which is the same thing, is a cyclic function which keeps all parts of the universal system in touch and correspondence.

The sense of touch is the most scientific of all the senses. It determines for us four different qualities of bodies known by the names of hot, cold, moist, and dry. These qualities, in their simple combinations with each other, form the characteristics of the elements as discovered by the sense of touch.

Aristotle remarks to the effect that these qualities, combined by two in the most natural and simple manner, form four combinations. "The elements, therefore, are four. The combination of coldness with dryness is called earth; of coldness with humidity, water; of heat with dryness, fire; of heat with humidity, air. These phenomena are in perpetual change around us, the air being first converted into water, and the water into earth. Fire also is visibly generated, for flame, which is a kind of fire, consists of nothing but burning smoke, which is itself a compound of air and earth." The perpetual changes of the elements and their compounds are the causes of the ever-changing spectacle which we behold around us, and are themselves produced by the revolution of the celestial bodies acting in concert, by reciprocal magnetism or gravitation. "The elements, therefore, are matter in various chemical conditions of change. These chemical processes may be summed up: First, as a species of change implied in these three forms; second, as a change of quantity augmented or diminished; third, as a change of quality—*i.e.*, alteration, as from hard to soft, health to sickness; fourth, as a change in substance, which consists in generation and corruption."

An organism will remain essentially the same while it passes through these first three processes ; but when it changes in substance, the continuity of the specific existence of an organism is broken without any annihilation of matter or energy : there is only a transposition, not a suspension of life.

Thus we perceive that reconstruction or regeneration is cyclic or unending. Force or energy, growth and decay, are merely varieties of molecular activity. Life, therefore, is as inseparable from matter as matter is from itself. Thus we perceive also that the activities of degeneration and regeneration are sequences, not causes and effects, as hitherto and commonly supposed. Sequences seem to involve conflict in nature ; but, conflict if it be, it is not after the human battle-field type, but more like the Olympian games on the ancient plain of Elis, where collision became mutual momentum for the triumph of the fittest, and which involved the elements of selection and emulation rather than the elements of destruction. Natural or normal sequences are the constructive issues of attraction and resistance, of degeneration and regeneration. Real or unqualified conflict would soon produce physical chaos. By the use of the term sequence or sequences, we do not infer cause or causes, but phenomena. The term may be taken to mean *signals* of laws, or forces in operation, rather than forces themselves. Strictly speaking, there are no results involving *final* issues.

The constitution of matter is such that it never can become other than it is. Matter is eternal, absolute. It cannot be interred. There is no cemetery in space for the ruins of matter. It changes, never decays in the way that death implies. It supplies its own necessities from its own eternal stores. There is nothing universal but matter, and space is filled with it, so that there is no

vacuum. "Give me matter," says Kant, "and I will show you how to make a world." A few investigators are coming to think that probably matter itself had been evolved under the action of electricity. But electricity itself is matter in motion, allusion to which is made further on.

Matter can perform everything required of it. Referring to gestation and the wonders of the human body formed and developed during that period, Professor Tyndall says: "All this has been accomplished, not only without man's contrivance, but without his knowledge, the secret of his own organisation having been withheld from him since his birth in the immeasurable past until the other day. Matter I define as that thing by which all this is accomplished." Professor Tyndall does not hesitate to classify matter as a "thing," or to attribute gestation and antecedent existence to the operations of the "thing" he calls matter. Matter is parthenogenetic father and mother. It is the "thing" that interprets existence, while actually being existence. If it were possible for anything else except matter to exist, it could only be as an adventitious product of it. Motion is as innate and original a property of substance or matter as the latter itself is original. Innate motion, or motion as sequence, is the equivalent of sensation, and therefore sensation is an attribute of simple or primary atoms and molecules. Matter in sequence accounts for the "soul-cell" or the embryonic psychic faculty which, by evolution, eventuates in the animal *anemos* or cerebral activity or consciousness. Matter-motion, differentiated in gravitation, magnetism, resistance, and attraction, is a positive and negative force in simultaneous action at the extremes, or the reciprocal action of the eternal circle—the former called by religion good, the latter evil; right and wrong,

or righteousness and wickedness. Instead of conforming to these definitions, such phenomena are the eternal, natural evidences of universal equilibrium. By the spectrum analysis discoveries are being made of countless millions of bodies filling boundless space, which are of the same material as our own solar masses, and which are undergoing various stages of evolution. By the same means science has obtained exact information as to the movements and distances of many of those celestial bodies. By aid of vastly improved telescopic power, in alliance with photography, startling scientific discoveries are being made which would have been resented as incredible and blasphemous a century ago. These discoveries consist of a closer acquaintance with comets, meteorites, star-clusters, and nebulae, besides countless millions of small embryonic worlds in the space between the stars. Science has also made the wonderful discovery with respect to many celestial bodies and systems, that their path is changeable, and to some degree irregular. This discovery completely upsets the old superstitious theory that the planetary system was thought to be constant or fixed. In this discovery the law of eternal and universal change is illustrated and confirmed. In all recent discoveries, and from all sections of the universe investigated by science, the laws of substance are found to be supreme, thus confirming the fundamental truth and glory of science and dispelling the notion of a divine, anthropomorphic personality. The laws of matter are supreme in the remotest reaches of space, just as they likewise are in our planetary system, in the minutest particle of earth matter, as in the smallest cell of the human frame. From all eternity the law of the persistence of matter and force has been in operation. Change, *perpetuum mobile*, is one of the most certain and constant

functions of the cosmos. By it the disintegration of cosmic bodies by collision with other bodies is constantly taking place. Even our own small planet, which was formed by chaotic solar constructive change, will grow old and lifeless after many millions of years have come and gone, and, narrowing in its orbit, will gradually cease to resist the sun's attracting force, and will rush unrestrained into its stupendous fires. The periodic decay and birth of cosmic bodies, which is now a well-known cyclic sequence, gives us a clear insight into the universal cosmic process of evolution.

Our conception of a body is that of an unknown cause of sensation, the mysterious something which excites the mind to feel. It is necessary to remark that on the utmost nature of the thinking principle, as well as on the inmost nature of matter, we are, and without faculties must always remain, in the dark.¹

Since Mill made that statement much has been made known, and his very rash assertion that "we must always remain in the dark" respecting "the inmost nature of matter and the thinking principle" would be greatly modified, if not entirely withdrawn, were he alive to-day. If it is agreed what matter is, there can be no difficulty in agreeing as to its possibilities. When we arrive at this point we will find much that was supposed to be profound mysteries, or thought to be supernatural, made plain and accounted for in so simple a course of nature that another danger may arise in our impatience with the slowness of others who are not yet able to see as we see. A great discovery was made known in May, 1902, at the Royal Institution in London, and is now more fully explained in a book entitled *The Response of Matter*.

This discovery is to the effect that inorganic substances

¹ John Stuart Mill.

are capable of responding in some degree to an external stimulus, as things ordinarily called alive do. Artificial organs have been constructed which function in a way similar to the functioning of our organs of sense. Just as impressions are received by our eyes and are transmitted to, and recorded in, the brain, so impressions upon metals are received by these artificial organs, and there is a response made in the form of electric twitches recorded by suitable electric recorders. The old hard-and-fast line between the inorganic and the organic, between that which has been considered lifeless and the living, is thus vanishing under the light of science. The inorganic realm is as much alive as the vegetable and animal—the only difference being that a greater complexity of articulated organs and more comprehensive cerebral functions distinguish the latter. Perhaps, when science follows up this discovery, the difference between matter that is alive and matter that is called lifeless will be found to consist in form more than in function. Of this we are so sure that, later in these pages, we devote considerable attention to the subject.

It was when I came upon the mute witness of these self-made records, and perceived in them one phase of a pervading unity that bears within it all things; the note within it that quivers in ripples of light, the teeming life upon our earth, and the radiant suns that shine above us—it was then that I understood, for the first time, a little of that message proclaimed by my ancestors on the banks of the Ganges thirty centuries ago. They who see but one in all the changing manifoldness of this universe, unto them belongs eternal truth, unto none else—unto none else.¹

The laws of the universe are neither conditioned by nor dependent on causes other than those of matter. They are not in any sense opportune or fortuitous. There are no provisions for emergencies, since emergencies are

¹ *The Response of Matter*, Professor Jagadis Chunder Bose, D.Sc., Presidency College, Calcutta.

impossible phenomena under a system of invariable cyclic sequence. Nature is never taken by surprise; it knows no chance, for the forces of nature are the ingredients of eternal substance that moves and works from inexorable necessity. The chemical properties and processes of matter are not foreign auxiliaries, but homogeneous and co-ordinate. The universe is eternal.

It could have had no antecedent. In saying that matter in the concrete mass—not merely in the atom—is eternal, we are aware that we go a step farther than most who trace matter to the atom, and suggest supernatural qualities to it, if they do not quite say that it must have been the product of a special creative act. The atom of some scientists is not much inferior to, if it is not identical with, the Deity of the Bible. Our argument against the postulate of a First Cause applies to the atom as well as to any form of existence. Sir Isaac Newton thought that Deity, by existing everywhere, and from eternity, constitutes time and space, immensity and eternity. This notion was probably produced on his mind by his great scientific researches *meeting* phenomena which he thought were only explainable *à priori* by the existence of an immense and eternal Being. Dr. Clark, Sir Isaac Newton's friend, thought that space and time are only the abstract of a concrete immensity and eternity, which compel our belief. He said, as these are not material, they must represent attributes of a Being Who is immense and eternal. Great as those two men were, their definition of an eternal Being will appear, after a little inspection, utterly unsound.

Sir Isaac Newton built his thesis for the existence of a Deity being everywhere, and at all times, on a fortuitous hypothesis arising in his own mind, since he could not account for certain physical phenomena on any other ground. Failure to apprehend sequences by attributing

them to an *ideal* cause should put the mind into the attitude of waiting for their solution. When the imagination dogmatizes, sanity for the time being is suspended. Dr. Clark, by inference, says, "immensity and eternity" force a belief on us that, since they are not substances, they must represent a Being Who is their equivalent. "Immensity and eternity" are not—strictly speaking—abstractions at all. The idea arises in the fact of matter and space being boundless and eternal. "Eternity" is only another name for matter, and "immensity" is only another name for space. They are, therefore, concrete fact and substance. Strictly speaking, conceptions proceed along sympathetic matter, just as the electric fluid proceeds along sympathetic media. There are no conceptions without an objective. No objective, no thought. How can matter conceive an immaterial? An immaterial eternity is, therefore, a contradiction in terms, since matter itself is eternity. Surely it cannot be that nothing, but that something, constitutes eternity. The idea that *nunc stans*—a moment of time that stands still—is eternity is an exaggerated poetic metaphor. Time is *non est*. Cyclic motion, demonstrated in the movements of bodies in space, is the only approximate symbol of what eternity means. Farther on we shall have occasion to treat this subject more particularly. It must be clearly understood that the energy of matter is matter in motion. Motion only can be where matter is. The organs and nerves which form our bodies are in perpetual motion. If this were not so, sensation and perception would be impossible. With organic motion we shall deal in another chapter.

Matter-motion secures eternal cyclic continuity of sequences. Cyclic sequence secures the conservation and continuity of energy, especially that form of it which builds up new organisms out of exhausted ones.

It preserves also, with inexorable exactness, the cosmic history of matter and organic life as revealed by geology and palæontology. The law of cyclic sequence shows continuity to be its intrinsic principle. Mere duration has nothing to do with continuity or discontinuity. The former is a neutral term, signifying inertia, and is absolutely *non est* in a universe of motion. Duration applied to matter in cyclic motion can therefore have no significance. Nor can instantaneous or unexpected phenomena afford evidence of a breach of continuity. Cyclic continuity appears to be the secret of the eternity of matter. The axiom that certain causes produce like effects cannot be so true as that eternal motion, or, as we prefer to say, cyclic motion, produces eternal issues or cyclic sequences.

Take the instance of a town lit by the little glow-lamps with which we are familiar in these modern days. The filament of carbon in the lamps is raised to a high temperature by reason of its resistance to the passage of the electric current, resistance always causing the arrested electricity to be converted into heat.

The electricity comes from the motion of the steam engine; the steam derives its action from the expansion of water into steam by heat; the heat is transformed chemical energy, due to the combination of the carbon and gases of coal with the air; the coal derived this locked-up store of chemical energy from the sun which shone on the forests in the morning of the world; and the sun derived its energy from the falling together of cosmic masses, of whose previous history practically nothing is known.¹

Each event in the chain is strictly continuous to, and dependent on, antecedent ones, both as to quality and nature of the result produced. Sequences, then, are cyclic, and are exactly conformable in kind and quantity to cosmic phenomena. They show the eternal, unchangeable energy under varying forms or media.

Continuity proves that there can be no action, near or

¹ *Psychic Philosophy*, V. C. Desertis.

remote, without a conducting medium. There is a bridge of communication between every existing unit which serves as a viaduct for the cyclic transmission of the vital energy of the universe.

Sequences can never be exactly alike, any more than snow-flakes can assume unvarying forms. Things exactly similar could produce no change on one another, since, each having all that the other has, there could be nothing to impart or receive. Dissimilarity is a condition of motion, of integration and disintegration, and of all fertility in organic and inorganic being. Fitness to survive is maintained by the power to adapt varying conditions for a specific end. This process accounts for the variety of species, as well as for the variety of type, and for man himself. As we have adopted the term "cyclic sequence," in preference to the terms "cause" and "effect"—these being quite inadequate and inaccurate as applied to eternal principles—we would at this stage give our reason for doing so. Strictly speaking, sequences cannot mean causes or effects; and the former term will, we venture to think, supersede the latter, since it more accurately represents the order of the living motion of the universe.

In adopting the term "cyclic sequence" we are aware that we depart from a customary practice. Customary practice becomes often, in the lapse of time, inefficient as a means to ends, and we have no hesitation, therefore, in departing from it. It is because we believe that the term "sequence" solves many difficulties which the notion of cause and effect cannot solve that we apply it to represent the processes of physical laws, which have neither a beginning nor an end.

We do not use the term so much to define as to describe the continuity of natural processes. Cyclic motion is more than mere action: it demonstrates that matter

has the intrinsic attribute of what may be called rotatory self-regeneration.

If sequences were what are commonly known as results, or final issues of antecedent motion, matter could not be held together, since finality to one motion could extend to all motion. Strictly speaking, results or consequences are streams of sequences or motions ever issuing from one body to another, from one phenomenon to another. This endless cyclic order secures equilibrium, momentum, and variety of form, giving something as an equivalent of something received. Consequences, therefore, are more accurately described as cyclic sequences. The latter are the procession of matter in the exercise of its function of self-restoration. More even than that, they are forms of chemical processes by which degeneration and regeneration are established as laws of matter. Although the term "sequence" conveys a suspicion of an antecedent cause, it does not really imply that, since in cyclic motion there can be no starting-point, *nothing going before*. The fact of cyclic motion is in itself proof of the eternity of matter; and as cause or causes postulate a starting-point, they cannot be applied to motion or events moving in a circle. Human thought has been so slavishly accustomed to think within certain statutory and religious limits, and therefore to think itself separated by a bridgeless chasm from a knowledge of the universe, that, whenever the unbeginning or unending is mentioned, it shrinks from entering the sacred preserves of the supernatural. Release the mind of terror, acquire the habit as well as the right to venture wherever in the universe thought can find an inway, and the mind will be overjoyed by the results and rewards of the venture. Matter cannot transcend itself. There is nothing in the universe to hide—why should there be?

The term "beginning," or "First Cause," comprehends

either too much or too little. We venture to criticise one or both terms with no carping or improper feeling, but with a reverence amounting to a passion for the truth.

A "First Cause" postulates necessity. God was "under necessity to create the universe"—or why did He do so? The necessity to create implies the necessity for a Creator. We ask, therefore, what could be the need which necessitated a "First Cause"? How could a "First Cause" be under such circumstance of need? Whence, where, and how did it arise? Was there a force or a necessity behind; and is this force or a "First Cause" the more potential, and which, therefore, is entitled to priority and supremacy as the "First Cause"? These are pertinent questions, and should not be dismissed with a shrug of the ecclesiastical shoulder.

To suppose a "First Cause" is to suppose a starting-point—a contradiction in terms, since it involves, as we have said, first of all necessity, and, therefore, a prior and greater cause. Necessity makes all subject to it. Necessity itself implies a force to occasion it. The term "First Cause," then, cannot signify an absolute. The superstitious term "God" has no significance in this issue, since it really signifies an incarnate ghost—a tribal material fetish.

The term "First Cause" supposes, secondly, an inconceivable æon of inaction, or immaturity of purpose, on the part of a "First Cause" before the process of causing began.

Such an attitude is proof of imperfection and limitation to the resources of a "First Cause," and implies also dependence on something external to it. Nothing could be external to it except necessity—clearly a prior potentiality. The imperfection or limitation appears in the æons of preparation under necessity. We are

compelled to contemplate what such an attitude as that denotes. A "First Cause" appears to have contemplated the creation scheme in eternity; but from obstruction of some kind, arising either from limitations within itself or external to it, eternal æons came and went before the scheme of creation was begun. Was the scheme, during the chasm between conception and execution, in suspension or in progress, or was there no interval between conception and fulfilment? If the former, the reference obviously implies that a "First Cause" was being acted upon, or was subject to influences other than its own, while the scheme was maturing, and cannot, therefore, be called a "First Cause."

Non-existence of matter or of the universe at any period in eternity, or an eternal infinite void, implies continuity of an infinite void. Eternity means nothing if not continuity. Continuity of what, then—of nothing or of something? If of nothing, nothing would remain; if of something, then something would remain. This remaining something, obviously, could not have been created, being eternal; how, therefore, can it be ascribed to a "First Cause"?

Even if a "First Cause" had been free to determine, still in the very act of determining there would arise the necessity what issue to choose or determine, which, moreover, would be ruled by the strongest motive. It could not, therefore, be free to determine, since to determine would imply expediency to select from two or more alternative schemes, which scheme was thought the best—a strange predicament for an Absolute God to be in.

Besides, if a "First Cause" was under necessity to choose or receive suggestions concerning the creative scheme, would that not imply that self-inspiration or *self-completeness* could not be an attribute of a "First

Cause"—an attribute absolutely indispensable to Omnipotence? A "First Cause" which should be all-comprehensive could not be in the position of a Power which *had* to choose. To a "First Cause" such as theology defines, an interval of time separating the conception of creation from its fulfilment would be equivalent to a Power governed by circumstances, and, therefore, limited in extent. Even the *act* of contemplating creation precludes the conception of an absolute personal Deity, since it would stand opposed to the attributes of inerrancy and omniscience. Instantaneous realisation—realisation simultaneous with the eternal thought—would, it seems to us, have been the symbol and proof of a "First Cause," as understood by theology. Again, if the conception and fulfilment of the creative scheme were simultaneous, then, instead of creation taking place, matter would be eternal, since the conception would be contemporaneous with the Conceiver. Matter, therefore, could not have had a beginning by a Being, since to suppose that Being incomplete in any one attribute in the minutest degree would be equivalent to a denial of the existence of such a Deity as theology defines.

Conception and execution denote human limitation. Lapse of time, more or less, in human intention is essential to judicious thought and action. But neither conception, execution, nor an interval of time for consideration, can belong to the Absolute. Thus matter or the universe appears to us, and also to reason, to be contemporaneous with eternal power or energy. Since matter can neither increase nor diminish, and every force subsists in its integrity through all changes of phase, it is eternal in fact and substance, independent of a creative act.

It often strikes us with wonder that those who cannot,

or will not, conceive of uncreated, self-existing matter can, with remarkable facility, conceive an unbeginning, self-existent Creator.

What is a "First Cause"? Science does not know it. The highest reason cannot know it. Science knows of absolute matter in motion. It can trace the infallible operations of mechanical and chemical energy from the ultimate atom to its highest known earthly issue, and back again in everlasting cyclic retrogression to everlasting cyclic progression, and knows that it is not supernatural—not an interjected spirit, but fluid matter, self-sustaining, eternal.

Science knows of cyclic sequence and of phenomena that demonstrate matter and motion. A "First Cause" is as inconceivable to reason as a final cause. Indeed, a first implies a final Cause. We take the liberty to repeat that, to apprehend the significance of what is asserted in the term "First Cause," a power must be supposed which could not be a "First Cause," since it resided nowhere and was sovereign over *nothing*. How could a Being under necessity to create inhabit infinite "nothing"? Nothing is the negation of something. Nothing, therefore, could neither be a "First Cause" nor the product of a "First Cause." To assert of infinite nothing that it ever was is only a negative form of saying that infinite something for ever existed. Here, then, we have something like a solution of what the term "First Cause" signifies. Human language was constructed for finding solutions. The word "something" was coined to indicate a thing existing; but no word can be framed to indicate the non-existent. Exigency has to deal, and can only deal, with what is, or conceivably could be. The inconceivable cannot offer either abstract or concrete interest to human reason. It cannot impress *reason* in any sense, nor receive any impression in

return. Said Socrates: "How will you inquire into that which you do not already know? What will you put forth as the subject of the inquiry? And if you find what you want, how will you recognise that this is the thing which you did not know?" If matter and force have produced the wondrous phenomena which we see around us, and are inscrutable, what ground can there be for assuming that we cannot frame a reasonable theory of their operations unless we believe that there is some other inscrutable mystery hiding behind them?

Since human sense is a function of matter, matter is conscious to human sense; therefore, matter is conscious to itself. The adaptation of physical sense as embodied in the nerve system of organisms, particularly in the human organism, is proof, and all the proof we require, of the existence of matter.

That which is not conscious to sense is inconceivable (there is no nexus between consciousness and the inconceivable); therefore, a "First Cause" is inconceivable. The term is wholly unsatisfactory. It is inconceivable by reason; accessible only to the imagination. The doctrine, however it may be defined, has only clouded thought by so much nebula, the opaque glow of which is more disconcerting than darkness itself.

Cyclic sequence, we venture to say, is the solution of the eternity of matter. In its infallible regularity science has discovered the continuity of all the intrinsic physical functions in the orderly processes of growth and decay; and chemistry and evolution account for most of the phenomena of matter.

We are persuaded that in cyclic motion will be found a solution of the mysterious problem of life which has been the puzzle of the ages. Within its transcendent scope and action physics and chemical operations are going on which, when properly understood, will finally

dispel superstition and credence in a spiritual Deity, and make clear the ancient secret—What is life? For that time science waiteth and worketh expectantly.

Regarding the doctrine of a "First Cause," Lord Kelvin, we think, takes up rather an ambiguous position. While apparently thinking that physical science may be able to get along without theistic theories, he asserts strongly that biological science compels us to believe in a "creating and directing power." Lord Kelvin's ambiguity consists in his two-sided mental attitude—namely, that his own branch of science, of which he is the greatest living representative, affords no distinct evidence of the existence of God, while biological science, of which he has no expert knowledge whatever, he thinks compels its votaries to believe in a "creating and directing power." In contrast with Lord Kelvin, Professor Haeckel, the greatest living biologist, rejects with emphasis all forms of theism, and takes his stand upon the most uncompromising monism. It is the rule in relation to exact truth that incomplete knowledge is almost as fatal to truth as to ignorance, since it leads men like Lord Kelvin into all sorts of treacherous will-o'-the-wisp ways, while specific knowledge, as in his case likewise, leads men in sure and safe highways.

In comprehending that the creation of matter out of nothing is as impossible as the dissolution of matter into nothing, the so-called mystery and miracle of creation will appear in their true purport, and the supernatural, so-called, will be seen to be nothing but a natural mechanical process going on from all eternity. Space is eternal. As a void, in part or whole, space is impossible, just as thought in itself is impossible; matter makes the need for both. Both consist in substance. That which is symbolised in the idea of a "First Cause," then, is, in the first instance, merely a human effort to account for

the material universe; and, in the superstitious and second instance, merely a human idea to account for an Unknowable. Indeed, all the names of the Deity, including the vaguest, Unknowable, are traceable to these two circumstances of thought. The human mind is so constituted that thought motion or brain action must be in harmony as a mechanical sequence with the universe of which it is a functional part. Mental action is the reflex action of impressions produced upon the human nervous centre by contact with related and external phenomena.

It was not so long ago, and the notion exists still, that the heavens were a vast circle, inside which the stars were fixed as lamplights. What, or where, is the boundary of that vast circle? There is no boundary—only endlessness. It confounds both reason and cosmos to entertain any other conception. Scientific insight, especially the discoveries of chemistry, lead reason to the conclusion that matter and space are eternal, and that both are one universe pulsing with infinite energy. Whatever is celestial is terrestrial, there being neither above nor below, neither far nor near, in the circle of the infinite.

We are now able to realise what are the ultimate elements of the material universe. First, ether; a universal, all-pervading medium, imponderable or infinitely light, and almost infinitely elastic, in which all matter, from suns and planets down to molecules and atoms, float as in a boundless ocean, and whose tremors or vibrations, propagated as waves, transport the different forms of energy, light, heat, and electricity across space. Secondly, energy; a primitive indestructible something which causes motion and manifests itself under its many diversified forms, such as gravity, mechanical work, molecular and atomic forces, light, heat, electricity, magnetism, all of which are merely Protean transformations of the one fundamental energy, and convertible into each other. Thirdly, matter; the ultimate elements of which are atoms, which combined form molecules, or like pieces of ordinary matter with all its qualities, and which may be called the bricks used in building up the raised structures of the organic and inorganic worlds.¹

¹ S. Laing, *A Modern Zoroastrian*.

This continuous medium, ether, is everywhere. Energy is at limitless work. Matter is eternal. Nature is alive to the minutest part.

Cyclic action is unceasingly taking down and putting together again; and everything that is, was, and shall be, is in constructive change. Thus matter is its own interpreter. Integration and disintegration have both their periodic climax, reaching which they rest not, but go round their unceasing cycle, bearing with them from their last incarnated forms the matter, or atomic "bricks," for their successive buildings. Variety of form and species, and, eventually, that which is called intelligence or cerebral motion, are the inevitable sequence of organic life adapting itself to local conditions. Intelligence, or brain motion, is not a greater or a more difficult sequence or evolution, or more incredible to reason, than variety of species or organia from a single simple cell. The material is there; chemical action is also there at work. Evolution and adaptation go side by side, pressed by necessity to constructive sequence. Our eyes, our ears, and all our senses come as their necessity constrains. Our intelligence is a brain sense developed in us by the fact of being, and being a part of the whole. Matter and energy in their multitudinous forms and processes, in cyclic action, account for all the phenomena of existence.

This brings us to the consideration of the great problem—What is life? Is it distinct *from* matter, or does it belong *to* matter as an intrinsic property? Is it, in short, matter's own virtue, or is it something else?

These are vital questions. But, before considering them, we shall clear our way of some extraneous details, so that the problem may be rendered more accessible. To this purpose we shall devote a short chapter *preparatory to a consideration of what is life.*

CHAPTER V.

LIFE NO MYSTERY

ETHER is a continuous, subtle, frictionless substance, present wherever matter is. It is, therefore, boundless. It is dependent on matter as matter is dependent on it. Neither can exist without the other, and together they are eternal. Ether circulates between the molecules of matter, and all so-called solids and massed matter, great and small, float in its boundless depths. It might appropriately be called the matter-blood of the universe.

Euler says ether is nine million times thinner than the atmosphere. It is by ether that physical magnetism and gravitation perform their cosmic functions or sequences by securing the orderly and stable distribution of matter in space.

Ether and electricity sustain corresponding relations to matter. The former is the fluid medium, the latter is the current energy of existence. Ether and electricity *are* matter, fluent, and almost infinitely refined. Ether, by its continuous elasticity, bridges all separate units of matter, and thus forms a medium for the cyclic inter-correspondence of all the other physical forces of the universe, among which evolution, development, selection, and adaptation account for the infinite variety of the vegetable and animal world, and the charm and splendour of light and shade.

Action and reaction, in conjunction with matter and ether, are not distinct motions, but are only one motion

circulating between two magnetic poles, cyclic sequence being the eternal issue.

The economic functions of ether in the universe are only yet in process of discovery. Science is beginning to realise that it performs more crucial functions as a constituent property of the universe than has been hitherto imagined. We know that ether is that subtle element in which our brain substance moves and acts with no less, but with as much, related necessity and certainty as do the infinite parts of the universe. While our brain is totally dependent upon our senses for its impressions or its information of the external world, it is kept together by the ether fluid, which also secures the continuity of nerve sensations to the brain for interpretation and subsequent reaction. It is the chief element by which the molecules of the brain are kept massed or concrete, and by which thought, or electric action, finds intercourse with the outside world. Without this subtle, and as yet partially understood, etheric matter, brain action would be impossible, and even existence itself could not be. All human progress may be due chiefly to the subtle action of ether upon matter. This explains telepathy to us, which is a mere chemical and mechanical sequence of material action and reflex action made possible by the ether bridging matter and conducting energy. Wherever true poles or sympathetic counterparts are established by physical or ethical affinities, ether will stretch its bridge across every chasm and make correspondence between the remotest extremes easier than speaking from mouth to mouth.

Distance, in fact, as suggestive of measurement, does not exist to the cyclic laws of matter. There are thus media for thought or electric currents to penetrate universal matter and encircle infinite space. As ripples caused by a stone cast into water circle outward to the

remotest shore, or as vibrations from a word spoken pulse through the infinite ether, so do our thoughts flash through the intersected universe along this impalpable medium. All matter is one. Its absolute unity, common interest, and interchange are being demonstrated in every beating pulse and rolling star. We have only to allow our minds to assert their specific office in existence to realise that they merely denote the electric batteries of the brain at work, and that our thoughts are really the flash-lights of the current energy of the universe. Two individuals of strong affinities, or having real affection for one another, have only to realise properly the fact of their ethical identity to be able to have intercourse, however divided by distance, along a wireless circuit of ether from brain to brain or heart to heart, as certainly as the electric fluid circuits from battery to battery. Distance will present no obstruction if the communication is open in the mutual consciousness of sympathy and desire. This is as true applied to any number of minds as it is to two. Nor is it difficult to understand how this is possible. Thought is brain motion or energy. Thought energy is identical with universal energy. Universal energy is universal motion, or the living electric fluid in circulation through the conducting ether. Enough is known of electricity to assure us that it is one of the most dangerous of physical forces if not reined and conducted by science in safe ways, while, if so conducted, it is the most obedient of forces. Is it incredible that the solar system, and even the remoter and still remoter systems of suns and planets, may be accessible to our knowledge by the bridge-making functions of ether, since it links our world and our thoughts to all existing matter in space? Science makes it absolutely certain that ether connects our world, and therefore ourselves, with all worlds and systems; and so we are one with the eternal.

Our interest in other worlds, and our prolonged study of them, amounts almost to demonstration of our physical affinity and union with them as integrate parts of a whole. We repeat, it is to ether, as the connecting-link of matter, that all brain or cerebral phenomena are due. Dreams so-called, second sight, and all those occult phenomena which are attributed to spiritual influences, are only forms of cerebral or electric energy disturbed in its course by the passive organism, thus proving the human brain to be a very sensitive motor or conductor of the circulating energy of the universe. Without brain matter or its equivalent there could not be motion, consciousness, or thought. The phenomena of life have been the puzzle of the ages. We say puzzle, since a puzzle, instead of being a mystery, is a something demanding solution—possessing, in fact, the solution *in itself*, and only waiting revelation.

Many other physical phenomena were at one time puzzles, and were even called mysteries until they were found out, when their mysteries became ordinary sequences. The mysteries were not the phenomena, nor in the phenomena; but the key to open them was not yet in human knowledge.

There is no mystery. Everything that is exists that it may be known, and it would be known were our knowledge equal to our opportunity. The inhabitants of other spheres may know what is unknown to us in this. It would be interesting to know what their notion is of a Creator. If they know more than we of the universe and its phenomena, they must know better than we how completely identified they, and all that exists, are with the mechanism of matter. The aggregate knowledge of universal intelligence, it seems to us, must represent the sum-total of

all that may be known, since there is no break in the unity and cyclic sequence of phenomena. It may be accepted that, where matter in space is, it will make itself known—it is known by the whole as its part. Physically, existence is a fact to be known. It is fulfilled in action and reaction; the action is the *fact*, reaction is the *answer* to the fact. Since our planet is a sequence of the appearance and disappearance of other planets which once existed, or do exist, why should it not possess a consciousness of its own existence in an equivalent way to human consciousness, if consciousness be merely the action and reaction within an infinite circle of material phenomena on other material phenomena? Why must human intelligence be supposed the supreme arbiter as to what consciousness is? It is a material function. On the contrary, ought it not to be regarded as the highest proof that all matter is alive and conscious, since it is demonstrated in the most condensed and concrete form known to us in microcosmic man? For anything to exist is to consciously exist. In our day knowledge has almost overcome the mystery of superstition, and not less in the realm of physics than in the realm of religion. Superstition and the Unknowable are daily exposing their emptiness before the revelations of science. Intelligence, or cerebral energy, is the cumulative sequence of cyclic forces culminating in the complex mechanism of the human ganglia, and, through it returning to the external world with momentum modified or magnified, it flashes along through other stages with ever-changing issue.

Superstition and reason cannot associate. They have no affinities to attract companionship. They cannot keep house together. The one is a ghost that haunts the darkness; the other is an actual worker, living in the light of day, whose repose is not to be disturbed by

apparitions of the night. Superstition was useful once in a way, as a crutch, while its ignorance stunned the world. To continue to use the crutch now would result in mental atrophy. It served a menial purpose while there was nothing better forthcoming. If it only served to keep the race awake, notwithstanding its frequent lapses into stupor, and its recurrent recoveries into rapture—if only superstition did so much as that, it saved the race from utter collapse to the dominion of the emotions: it served an end in the development of events which roused the reason and prepared the way for science.

Mental development and mental hunger are as typical of man as are physical hunger and muscular development. But his mental function may be injured by a surfeit of superstition, as his digestion by an over-indulgence. Superstition is one of the most mischievous of mental drugs. Faith—*i.e.*, mere undefined consent—does not fall short of superstition in its weakening influence upon the mind, for merely to believe is to arrest the mind in its natural quest of knowledge, and thus cripple or stunt its growth. We have only to turn to history and our own experience to find how prejudicial to life and conduct are the results of religious credulity. Religious faith, since it forces fear or hope by threat or promise, retards a healthy expansion of the mind. Reason is a natural and normal function. Faith is a nervous disorder of the mind, and always disturbs its polar action. Reason is the true line of cyclic sequence—the order of nature or right living. Thus, cyclic sequence is cyclic or orderly development. Selection and “survival of the fittest” are cyclic sequences, and they never cease. The forms in which they are seen to work, change; their forces, never.

All organisms, man included, are perpetuated by

change. There is no finality to organic evolution, because there is none to matter and force. Even the apprehension of this fact is a material sequence, implying development of the mental faculty and evolution of a higher racial type. To know is nature's greatest necessity. From sensation it rises to sight, from sight to hearing, from hearing to speaking, and from speaking to thinking and knowing.

Nothing can arrest the natural operations and progress of momenta, and, therefore, the ever-increasing potentialities of evolution. Everything is in motion, and all growth-motion is from the incomplete to the complete. Living forms which lag behind, or for some reason cannot conform to her operations, Nature pushes aside or reconstructs. It is the fittest to live that survive and produce.

When a type or species has once got its footing in existence, it tends to part from and leave behind the type or species from which it sprang. This fact accounts in some measure for the difficulty of identifying connecting-links in the evolution of species, especially with regard to man's more recent evolution from the ape. The necessity of leaving behind first origins and their environments—the begotten past for the awaiting future—is a universal principle. The trend of being is that progress proceeds from the simple to the complex. In the light of this fact, the theory of descent, as applied to man, suggests infinite advance. Compared with the progress from the primary forms of life which issued in man, his further development into a very different form from his present at some remote period is a probable sequence of natural law. Under this consideration man's present organic condition is one of metamorphosis. He is not yet a completed organic animal. The science of physiology proves that his organism is even now, and

unconsciously to him, conforming to structural changes caused by changing ways of living.

The theory of development has introduced a complete reform of biology, and it will be followed by a still more radical reform of anthropology and a truer understanding of the universe.

In whatever part of the world we look among civilised or uncivilised peoples, history is taking its immemorial course. The natives of Australia will soon have vanished; the wheel of progress will crush them out. The Tasmanians are gone, and the Maories will soon follow. The Pacific Islanders are dying out. Wherever a superior race comes—but not till then—into close contact and competition with an inferior, the result is always the same, by war and conquest, or by the silent processes which we see at work in Australia and New Zealand, and the North American Continent: extinction of the inferior is at work slowly but surely, making room and place for the superior race. Every race descends to the grave, and becomes extinct. The old is the seed of the new. Perhaps there is not a spot on the earth's surface that has not been the lodging of quite different races.¹

In every new race an advance in some way has been gained. The time taken to do this may be thousands, or many thousands, of years; but the issue is inevitable, and always with some gain to the human race. Having that in mind, there should be little difficulty in grasping the theory of descent, and how man came upon the scene, with his intelligence and will function.

x Mental activity depends chiefly on the structure and nutrition of the brain. The history of man's intelligence is identical with that of the nervous system, and is in exact relation with the cerebral convolutions. The differences between man and the lower animals are in exact correspondence with the development of the organ
+ of thought. There can be no doubt that thought is physical energy resulting from a particular combination or selection of organic mucous matter in correspondence

¹ Benjamin Kidd, *Social Evolution*, p. 51 (1895).

with other matter by means of the conducting ether and the connected nerves.

No section of matter is divorced, or can be divorced, from other sections of matter. That fact is worthy of remembrance. We need not travel beyond our own organism for proof. Our nervous system supplies the most convincing testimony to our union with the external world.

Every nerve in our bodies is in relation at its distal extremity with the modes of motion which it feels, and at its central extremity with the brain. The part of the eye that sees is not the vitreous humour, nor the crystalline lens; it is the retina, which is simply the termination of a nerve radiating in such a way as to receive and discriminate vibrations of the ether. To see, therefore, is another method to feel. So also is the organ of hearing. The essential agent of the organ of hearing is the termination of a nerve so arranged as to receive and discriminate vibrations of the air; the ear may be described as another method to feel.¹

- We exist only as we feel. We feel only by our senses, and only as these are in tune with the universal organ can they receive and convey to the brain the note of harmony or the exact message from the world without. Sensations develop perceptions by their impact on the brain; the brain receives the impact, which is chemically discharged as electricity or thought. Thought, therefore, is brain force, the evidence of our conscious relation to the universe. Consciousness is a common consecutive function of existence. Some call it instinct; but it is an intrinsic function of matter by which all organic creatures, and matter itself, are made to find their place and true office in life. This instinct, so-called, is simply motion in matter—in all matter. In individualised or organic life it is less simple than in mere matter; and as the organism develops, or becomes more complex, the instinct conforms—i.e., it becomes more resourceful in adaptation to conditions, following the line of least

¹ V. C. Desertis, *Psychic Philosophy*.

resistance. Were the brain not to perform its function as the ear and eye and the nerves do, of what use would the contributory nerve system be to it? The aggregate sequence of the organic functions necessarily issues in cerebral action. All these functions are channels or
x media of the eternal world-energy. | The brain motor receives and resists the energy, and returns it with a changed significance. | If it is received so as to give a
x wrong report, or gives no report at all, then there is a break somewhere in the circuit, or the instrument is impaired. The senses of the organism are the ratio of the various forces without, which impinge upon them, and to which the senses respond.

Every external motion in the material world finds interpretation in organic or cerebral impression and response. Thus, the discharge of brain thought or electricity is—if we may be permitted the expression—
x a condensed form or illustration of universal energy. Brain may be termed the phonograph of nature's voices, or the motor through which her telegrams are rendered
x intelligible. To be more accurate, it is the central station of all nerve action, where are received and per-
x ceived the reports of the nerves or senses in their impact with the external world. Thought, therefore—and we mean by thought the report of external impact upon the nerves and brain—is a coherent and concrete synopsis, by mechanical and chemical sequence, of organic sensations used for the ends of being. Where would be the utility of the complex motion of the universe if a coherent and consistent sequence were not forthcoming?

As a man is the collective and concrete expression of the mass of men who, consciously or unconsciously, impress him, so men symbolise in themselves the forces of the external world, and are thus able consciously to *understand it*. All external impact upon the senses is

from matter. The nerves contributory to brain-motion are matter. Brain itself is matter; brain-motion is matter-motion or matter-thought; therefore mental phenomena are the direct sequence and product of matter. There is nothing miraculous or supernatural about mind as a phenomenon of matter, any more than there is about the nerves of sight, of hearing, or of touch.

Symbol or speech is the inevitable sequence of conscious contact with things external. As all existence, in its infinite forms and sections, is alive and conscious of its identity as a corporate unit, the responsive action to each other's is instantaneous and complete; and whether by sign or by speech, silent or articulate, the response is understood, and is in exact proportion to the requirements of each unit and the continuity of the whole.

There can be no question as to the need of some mode of inter-communication between all the parts of existence. To be understood in some way, in order to conform or resist, is a fundamental need of being. Whether by silent adaptation, sign, or speech, some mode by which action and reflex action should be operative must be intrinsic to all forms and conditions of existence. The simpler the organism, as we have said, the easier will it respond. But that fact, rather than obstructing, accentuates the development in man of a function by which a complete understanding of his relations to the universe may be known.

Thought, and what thought signifies, has been generally ascribed to a divinely-imparted faculty, and not to a mere material function. Two reasons are accountable for this fallacy—first, the religious sentiment; and second, ignorance of Comparative Anatomy. The one would trace everything of an occult order to a spiritual or supernatural source; the other shuts out a knowledge of the animal structure, which, if not yet absolutely

able to determine that thought or intelligence is a purely material sequence, leaves no room to doubt that all mental phenomena are entirely due to cerebral motion. All experiments in this direction confirm this statement. There is no super-physical influence at all involved in mental phenomena. Mucous brain-substance is pure matter, and its motion and energy as thought-sequences are purely material and mechanical forces, and are not abnormal or supernatural manifestations of matter.

Man is a coherent sequence of evolution. Nothing could have arrested the evolutionary development of man. All organisms possess those specific functions which are sufficient for their living needs and survival. Man has no less. It is impossible to conceive of man having every physical function and sense except that of thought or intelligence, which is only the complement and completion of his animal stage of development. Thought is man's physiological sequence, and the sign of the unity of cosmos; and speech or mode of correspondence is the sequence of social and external world-needs by which necessary interchange with others and the universe is intelligently apprehended.

Necessity never fails to provide the instrument it requires. The primary and persistent effort to an understanding of his presence in the world developed in man the faculty of speech. In this faculty he possesses an instrument which is almost perfect for concealing or revealing his mind and thought. In thus concealing or revealing his thought man is only following and fulfilling the order of cosmos. We have said that it is very improbable that either our present form or our present mode of expression is final. Nature's need will find other and probably better forms and modes if the present prove unsuitable. Whatever have been the organic *results* brought about by evolution, they but outline and

predict physiological changes of a far more complex and advanced kind than any which evolution has yet brought about. The more complex an instrument is the more sensitive it is to impressions, and the more accurately it will record them. The human brain is the most complex—it is the most sensitive and responsive of all instruments. It is supreme as an organ of sensation. But it is more—it is the highest evidence of a universal function more or less modified, but present and in normal action in every existing form of matter and motion. Vitality or motion is everywhere and in everything. Vitality implies sensation; sensation implies consciousness or responsiveness. Therefore, the universe in all its parts is a self-actuated, boundless immensity of conscious matter. Some may say this is an argument for a Universal Personal Intelligence. But it must be remembered that the universe is not a concrete, but a discrete unit, and only in the conjunction of its *infinite parts* is it complete. If there be a Universal Intelligence, He can only exist, therefore, as the universe exists—*i.e.*, in discrete or infinite parts, which is just the equivalent of a material universe. There is no reserve store from which the infinite parts are supplied, since the universe is in infinite distribution in space linked in ether from interdependent necessity. Besides, we have no reason to suppose that our human intelligence represents the kind or form of intelligence that is in use in any other of the infinite host of stars and planets in space, as it consistently must needs be were there a personal Creator and Administrator. A Creator of an infinite inconsistency is unthinkable.

Evolution in any or in all the other planets or systems may have taken quite a different direction from that which it has taken in this. As we have said, the energy is universally identical, but its forms, its highest

forms, may be structurally altogether different in other planets from those in our terrestrial system. A Supreme Intelligence is inconceivable as a unit.

In the human organism the brain, or brain substance, is the motor of man's conscious correspondence with the outer world. It is neither a celestial nor an ethereal substance. It is not the shrine of an immortal individuality, nor is it the abode or vehicle of any force undervived from matter. On the contrary, the brain is only matter, subject to chemical decomposition like all other matter. Its normal use is to receive and report—not of an unknown region by immaterial or spiritual media, but of a material realm by physical media alone. The human brain, therefore, inherits its powers and functions from incorporate and complete identification with physical universal matter, and with nothing else. If a violin may be called a musical organ, and the music from it the reaction or record of the performer's intent, much more may the human brain be called the recording organ of Nature's operations, since by reaction it interprets through its nerve chords only that which it receives from impact with the external world. As a normal phenomenon and sequence, thought is not any more marvellous than the chords from a violin in contact with a force external to it.

When we turn to the consideration of consciousness, we have an aspect of mind or brain motion comprehended in the term "thought." "Thought," like the word "life," is a general term, and, like "life" also, it manifests itself under many forms, of which consciousness is the chief. Consciousness is the evidence to our corporate union and inter-communion with the universe as the infinite fact. Strictly speaking, it is brain-sense arising from the identity of brain-matter with all matter in *responsive* motion; and memory is impressed sensation

travelling in a circle. Consciousness, therefore, is merely the sequence and momentum of actual nerve sensation, and the real record of an individual's impressions from the outside world stored in the cerebrum. Consciousness as a cerebral function in man and the higher animals is confirmed by the pathological study of its diseases. When parts of the cortex are destroyed by disease, their respective functions are affected, and thus we are enabled, to some extent, to localise the activities of the brain. When parts of the area are diseased, that portion of thought and consciousness which depends on those particular sections is modified or disappears. This conserved or secreted energy is the source of supply of all the other mental powers or functions. We are quite aware that this theory of consciousness is somewhat heretical. Others have defined the term as signifying that immediate knowledge which we have of our present thoughts and purposes. They have said that to apply consciousness to things past is to confound it with memory, and "all such confusion of words ought to be avoided in philosophical discourse"—that it is only things in the mind, and not external things, to which the term can be applied. Consciousness is merely a mode of memory. It does not predict, since it is not aware of something not yet come. Like memory, it recalls, since it can only know what has been. If it be asked, "Is consciousness material?" we answer, No. There is a difference between an abstract function and a concrete substance. What we have said of thought as a function of matter may be also said of consciousness: it is instantaneous with matter—the cyclic sequence of matter-motion. We affirm again, under proof already advanced, that consciousness is a function intrinsic to all existing* forms, and, in a relative degree, to inorganic matter. It graduates, if we may so put it, from man, in whom it*

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- * seems to be most developed, downwards through all his organic ancestry—all the primary forms of life, to
- * inorganic matter itself.

This is no rash affirmation. Chemical activity is the secret of universal energy. These two are practically synonymous forces. Natural chemistry is the primary factor or momentum in evolution as a force. Spontaneous generation has been traced to it in the genesis of life.¹ It is an active, differentiating energy in every body that exists. It is in reciprocal action through the conducting ether as medium with every body that exists. It, or energy, is the vital consciousness—the eternal foundation-force. It should never be forgotten that everything that is, is, and continues, by reason of its fitness, to form part of the whole. This fitness is in the thing or creature itself, and may be regarded as consenting to the conditions of survival—which is akin to Darwin's law of adaptation.

A stone, a blade of grass, an ear of corn, are all spheres of chemical conforming activity, and, therefore, are responsive (relatively conscious) according as they have need. It is their fitness that justifies their existence. Nor has man a higher justification than his fitness to live. His consciousness secures to him the resources that supply his fitness. We have said that the human brain cannot record more or other than exists, or has been conveyed to it by the senses. Inversely, what has existed or does exist to the senses does actually exist, notwithstanding Berkeley's theory of sense ideality. The brain recognises the reality of matter by its integral sympathy and relation under the form of sense excitation. All external impressions upon the brain pass forth from it again to the external world, modified and refracted by contact with the living

tissues through which they have passed, and find their external reflections in the various manifestations of voluntary motion. Intelligence, or its equivalent, therefore, which is a conforming or confirming motion, is not an exclusive function singular either to man or to the inferior animals. It is a function intrinsic to every form and object. An atom is pregnant with it. The dust underneath our feet, were it voiced, would tell us that it distinguishes, classifies, acts, remembers, and even to its need anticipates. The classification of soil and rock, their various minerals, the conformation of islands, seas, and continents, the revelations by palæontology, the gregarious and other interesting habits of vegetable life, all prove to us that there are perpetual conforming activities going on within the minutest, as well as within the mightiest, masses of matter, which can be described only as adaptations to conditions, and which are the equivalents or functions of material consciousness. We affirm that these functions are not confined to the human organism merely, but are characteristic of all conditions of matter. Self-consciousness, said to be an exclusive human attribute, is just that appreciative motion in all things that conforms to the law of being. Man is thus the synthesis of the facts of the universe. To put it in another way, the human brain is a miniature universe, since in it there is focussed the sequence of matter's associated potentialities.

The world has been flooded by theories and guesses concerning the phenomenon of life. The first man was puzzled by it. From neolithic times till now almost an Egyptian darkness has concealed it from solution. Guesses and theories have been like feeble glow-worms in the long night which veiled in its gloom the problem of life from the search of man. Man's attitude to the mystery is a perpetual interrogation—Why such secrecy?

Is there danger or death in the knowledge of it? Hypothetically, the advent of human reason would have been the fit time for man to know himself, and to arrive at some intelligent perception of his place in the universe, and his relationship to his Creator, if he had one. But the knowledge did not come with human reason, albeit it might be in the possession of the inhabitants of other planets. The heavens were as brass to the interrogation of man. The great tongue was dumb. Mystery enveloped intelligence, and the Unknown sat upon the seal which hid man from himself. We see clearly now that any light which is to fall upon the problem must fall from man himself, and no other.

When man first stood upright on this planet and looked out on the world through wondering eyes, no one told him who or where he was. He was upon an unknown sea, with neither oar nor compass; a grown infant, without tutor, and, save what his senses perceived, all in him and about him was a dream of infancy. The shadow of his person on the ground which followed him in the sunshine and vanished with the day puzzled him; then he feared it, then paid homage to it.¹

On through the thickening centuries the mystery
✱ of life grew deeper, until Assyrian and Chaldean civilisation, inheriting the puzzle, "What is life?" endeavoured to solve it. But the tangle seemed the more entangled, and they surrendered it to their deities to solve, who only hid it yet deeper in deified darkness. The genius of Egypt was strained in vain to the task—the elusive thing could not be found. Greek philosophy
✱ strove unavailingly to pierce the gloom. But the Greek mind—the nursery of the idealistic and abstract—was pleased with the mystery, and their pantheon was the impotent consensus of their efforts to find an explanation. India grappled with the problem, and, through Buddha,
✱ set itself to find the secret of life. Instead of a solution,

¹ *Principles of Sociology*, Herbert Spencer.

Buddha found only labyrinthine perplexity, and obtained, not a solution, but rest in remote Nirvāna. Not as a scientist, but as a seer and sage, Buddha said life was the polluted source of sorrow and wrong. He taught that life in itself was an evil to be borne. Men were like the ephemera in the brief sunshine, to perish of inanition with the chill of evening. Men were sick to death with the ills of being.

Perhaps never was the great Siddhārtha, the prince of moralists, so near to the solution of life as when he said: "Nothing is stable on earth; nothing is real. Life is like the spark produced by the friction of wood—it is lighted, and it is extinguished; we know not whence it cometh or whither it goeth. If I could find it, I would bring light to men." In some of these words he showed himself very near a solution. But Buddha knew it not. Had he known, and had he gone a little further, he might have removed the seal that hides it; but, had he done so, he would have come upon no awful mystery nor beheld the source of sorrow. Weary of his search, Buddha at last found emancipation, and, like imprisoned air released, entered Nirvāna, the illimitable energy. China, through Confucius, competed in the world-search for the hidden pearl, but gave up the task in vexation; and all that ancient nation has reaped is summed up in his own words: "While you do not know life, what can you know about death?"

Thus the quest for the unknown thing, which spread from the groves of India and China, from the temples of the Nile and the Euphrates to the shrines of Greece and Rome like the dirge of a lost hope, prolonged the question, "What is life?" which was first articulated amid the solitudes of primeval man. But the gods were dumb, although the questioning echoes searched the earth. Surely, if the great enigma

could have been revealed by old-world efforts, it would have been by Hellenic wisdom. But from the height of its genius Greece confessed its impotence to find that which it most desired to know. Invocations to their gods from men in travail to make the Sphinx speak were but helpless echoes from the despairing centuries articulated over again. All was dumb and dead as the images on their sculptured stone. Socrates the Sage, first in order of the intellectual trinity of Greece, after a life that strained to break the seal and failed, could only give his opinion that life *is*; and, by presenting its duties and privileges in the light of such wisdom as he had, Socrates did all that he could to convince his disciples of the folly of labouring to find the unfindable, advising them rather to make their own lives tolerable to themselves, serviceable to the wretched, and a good thing to the wise. "There is but one good," he said, "knowledge; but one evil, ignorance."

His disciple and successor, Plato, a loftier thinker than the master, than whom no man had a sublimer conception of the aim and service of philosophy, also accepted the fact of life, both as a concrete and abstract reality. The perfect in concrete life was to Plato physical perfection, human beauty, and strength. The abstract was the supreme glory of life, what he called the immortal essence of it—"if a mortal man may be immortal in love, truth, and beauty." "This is that life, above all others, which a man should live in the contemplation of absolute beauty."

In summing up his account of the world Plato says: "And so we may say that our discourse about the nature of the universe has come to an end. The world has received animals, mortal and immortal, and is fulfilled with them, and has become a visible containing *the visible, the sensible* God, Who is the image of the

intellectual, greatest, best, fairest, and most perfect, the only-begotten universe." Thus one of the most superb intellects of any age, although he was the prince of idealists, while recognising a creative act, confesses he knows not what a creative act denotes.

Plato's initial error, which damages his entire philosophy, was his disdain of specific principles of thought. Instead of reasoning from known principles, he soared beyond them as things which hindered, rather than helped, apprehension. As in the Olympic Stadium, he doubted whether the proper course proceeded from the judges to the goal, or from the goal to the judges. Instead of starting at known things in his pursuit of reality, Plato went straight into dreamland—the common habit of poets and theologians. His entire philosophy has on that account little, if any, practical value, and the problem he sought to solve in his lifetime was after his decease less attainable than it was when he first assailed it. And so ideal Plato, with the eye and wing of the mythical archangel, like his master, left the secret of life undisclosed.

Aristotle—the third person in the Grecian intellectual trinity—who laid the foundation of exact science, and whose almost superhuman intellect no man has surpassed, came nearer the solution of the secret of life than any thinker before or since. Perhaps the word "since" should be qualified in the light of very recent discoveries.

Plato, Aristotle's master, we have said, rose to ideals. Foundations had no value to his sublime intuition. From ideals he tried to construct a universe and a theory of life. His constructions were the mere architecture of poetry, not of reason. That is a process which must end where it began, in mystery—perhaps in deeper mystery. Aristotle, in his methods, was the antithesis of his master. *He laid a basis in the particular, the individual,*

the contingent, from which, by a process of pure reason, he drew his conclusions. As a scientist he started at the known—i.e., at that which is known by sensation, which being repeated produces memory, and memory experience, and experience science. This was the line of evolution adopted by Aristotle in his search for truth. His solutions of the problems which he grappled with must command the respect of the world's best thought, since no greater observer or thinker ever tried to explain the phenomena of existence. And this, first, because his solutions, although long ago achieved, are, in many instances, not superseded by modern science; secondly, because of his utter sincerity, inspired as it was by the unique sagacity of Socrates, and stimulated by the lofty idealism of Plato; thirdly, because he gave to men and to all time a system of mathematics to which science is indebted for all its achievements. Aristotle's genius, on the one hand, supplemented the lack in the philosophy of Socrates, who was sceptical about the solidity and unity of the material universe, and of life as not supremely desirable for its own sake; and, on the other hand, it discarded Plato's speculations as so much mere adornment, in order to get at the inner facts.

Demonstration with Aristotle was the ground of appeal; illustration was employed only as confirmatory. There is little doubt that the influence of Plato helped greatly in giving form and imagery to New Testament writings. He gave little, if any, aid to the science of pure reason. There can be as little doubt also that his influence hastened the decadence of Greek and Roman love of truth under the Eclectic philosophers, their passion for true glory, and their manly love of liberty. Aristotle seemed to inherit the practical wisdom of Socrates and the transcendentalism of Plato; and, *combining them* in his splendid sagacity and passion for

exact truth, he extracted all that was best from them with immense profit to himself and the world. He, more than most men, realised the maxim of his immortal predecessor, "Man, know thyself," by showing how and where men could obtain such a knowledge; and also by founding a substantial basis on which Plato's idealism might rest as on some reality.

The temple of Delphi, over whose gates the great motto was inscribed, was the announcement of gods and men that to know one's self was man's supreme duty; and in achieving that he would achieve the greatest good and find all knowledge that was worth knowing. Aristotle was the first to pierce the mystery and break the seal which had haunted man's thought since its beginning, and defied the skill of all the centuries. He heralded science, which, since his time, has dissipated many phantoms, and unveiled many realities, and which will yet show the secret of eternity, which is no secret.

The foundation which he laid has been the basis of all subsequent science. His method was, as it is to-day, one of unfailing success—from the known to that which is unknown, but possible to know. By advanced stages—the latest of which he made a leverage to higher and still higher, and by the severest process of analysis and induction which no subsequent system of reasoning or apologetics has superseded—he reached conclusions, many of which to this day are accepted as ultimates. "Matter is the eternal fact," says Aristotle. "Matter and motion" are the twin eternal sources of being and function. It is true that he distinguishes between what he calls "virtual" being, potential being, and "true being"—i.e., between passive matter and active motion. The virtual, says Aristotle, only becomes the real by means of the formal or formative cause, which gives it the definite type in view of which it exists. It was by

starting with this distinction between being *in posse* and being *de facto* that Aristotle was led to affirm the eternal activity of a first principle. It seems to us that the one fault in his induction is just this distinction. For while he perceived, with a precision that was absolutely marvellous in his time, that matter must be eternal, he did not seem to apprehend that matter in itself possesses, as a constituent or property, the *de facto* activity, which constitutes that which he says of matter, as the only real existence under two aspects—"matter and motion."

This distinction is, we think, the one fatal weakness in the otherwise impregnable logic of Aristotle in his definition of matter and motion, or matter and life. How the virtual or passive matter did or could reconstitute itself into "true being," or "active motion," or how it could exist at all in space, passive, he does not say. Neither does he say how the "true being," or "active motion," immaterial, unincarnate as we must suppose, could impregnate, or otherwise conjoin with the virtual.

To suppose eternal matter—i.e., the material universe—as one of two universes is impossible, inconsistent, and absurd. A universe is the *whole*—the *only one*. To treat it as mere matter unidentified with motion, or what Aristotle describes as the indeterminate, existing eternally and contemporaneously, yet distinct from eternal motion, which he describes as the determinate, is to suppose *two* universes. Again, to suppose them separate universes is to suppose their corollary, their mutual antagonism, since eternally they existed individually—one passive, the other active. To infer that both are eternal, *real existences* under different classifications is rather a wonderful grouping of two impossibilities. There seems to have been in the mind of Aristotle some such idea as the *following*—namely, from cosmic need, or conjunction, or

somehow, their individual eternity ceased—*i.e.*, the impossible became the actual; and the “passive” universe, which was eternal, and the “active” universe, which was also eternal, surrendered each its individual eternity by mutual arrangement, and thus both became a corporate eternal universe.

It is obvious that such an idea is absurd. That two eternally contemporaneous universes (Aristotle distinctly implies that) could have originated mutual gravitation issuing in conjunction or absorption, and the extinction of one of two infinite spaces, is to suppose a total reconstitution of the laws of resistance and attraction, which must eternally interact to make a universe possible. If they had been individual existences from eternity, they must have continued so to exist, for so the word “eternity” signifies. There cannot be two co-eternal universes, since that would imply two infinite spaces.

The inference is obvious that matter and motion could never have been individual entities. They are one in substance and function. Moreover, inert matter, or passivity, would imply a supernatural phenomenon; and a belief in the supernatural cannot be ascribed to Aristotle.

From the sublime phantasies of Plato to the Christian religion is not a far distance for the mind to travel, although, measured by time, the interval separating the Platonic from the Christian era is not inconsiderable. We refer to Platonic idealism in this connection, because its influence on the Christian religion was greatly in excess of the influence of the philosophy of Socrates or the science of Aristotle. The interval between the two eras was a time of development rather than of reconstruction, for without a Socrates and Plato there could not have been a Christ. These two, more especially the latter, were the pioneers of Christian

idealism, while Aristotle was eminently the apostle of science. The Platonic and the Christian systems are essentially identical in their idealism. Both display the same impulse to theorise and speculate. The transcendental characterises both. Neither is erected on the concrete. Reason was almost exotic to the Orient mind. As Socrates and Plato produced an Aristotle by the reaction of their idealism, so Christ and his religion have evolved modern science by the reaction of Christ's transcendentalism.

In mental type, Plato was more a Hebrew than a Greek. His human republic was a phantasmagoria; and although Christ's system of ethics cannot fairly be classified under that description, it can justly be called ideal. Both systems originate in the imaginary and pictorial. Both afford infinite scope for all sorts of suppositions very dear to the sensuous and credulous minded. From such evidence as we have, Christ built his system, if such it can be called, upon an abstraction—i.e., by assuming an Unknown to find the Known—a procedure in which reason is conspicuously absent. It asks unlimited credence. It attests its divinity by imputed miracle-working, promising reward and punishment in a spiritual life after life is ended.

From another aspect, the distance between Plato and his great disciple is immeasurably wide and deep. They are as far from each other as was Athens—the architectural and concrete fact—from Heaven—the dream of the idealist. The one was made of things that are; the other, of things that are not, neither can be. Aristotle *had* a religion—the finding of fact—truth and the revelation of it. His was attested, not by insisting on something outside the universe for its origin and foundation, where search for proof is impossible, but in concrete facts, which in every pulse-beat appealed to his senses

and centred in his reason. He saw that the key to Knowledge was not in mind-soaring merely—not in dream, but in thought, seeing and thinking through sense-impression. Thus, his system lives and will live for ever as the foundation of all positive knowledge. Had it not been for Aristotle's system of reasoning,¹ we should have to express many of our ordinary thoughts quite differently. Dante said of him, "he was the master of those who know." He was the architect and builder of the system of exact science. If the maximum of what we possess of Aristotle's life-work may be called fragmentary, it is more than palæontological, because it is a living, virile revelation—a vision of the absolute where are no secrets to the seeker. It is this certainty in Aristotle's system which is the antithesis of the Christian system, or any other speculative or philosophic system. In universities, grammar schools, in great libraries, in literature, in all the modern languages of Europe, he is fashioning the world's intelligence, so that to-day the world-mind was never freer or better prepared to pursue the real and eternal, instead of the visionary or fantastic. "There is but one reality," said Aristotle, "matter and life." The Christian religion is inverse to the progress or nature of knowledge. It starts in a superstitious environment. What little of pure reason it possesses is *à priori*, rather than *à posteriori*. That is the method of theorists, or idealists. Their process is congenial to minds of an Oriental cast, on which impression reacts on the emotions. Dissociated from reason, it is not calculated to construct a vigorous people, or produce any permanent benefit in a world of fact. Progress is uniformly upward. No system erected on a theory can have a prolonged duration in itself, much

¹ *Prior Analytics, Topics, Organon.*

less a perpetual longevity, except and in so far as it is auxiliary to real knowledge. To start from the merely supposititious, as the Christian system does, to find certainty, will doubtless excite the emotions, and, if prolonged, will issue in mental or intellectual paralysis. In its very nature it cannot make discoveries in the regions of physical science, by which alone the human race can continue to exist and to fulfil its true mission. In all countries where religion is supreme it obstructs the march of real civilisation. We have only to refer to those nations, for example, where the Papacy has full control. The supreme doctrine in religion—that faith is higher than reason—is a blight on intellectual action.

- ✧ The reaction is degeneration, the decay of enterprise. It is safe to say that were religion, as it is interpreted in the canons of Christendom, to work out its theories in consistent sequence, the result would be absolutely fatal to human happiness. Except for the infusion of new life which it gains by contact with progressive thought, and the modifying influence of modern science, religion, as we know it or have known it, would no longer be tolerable or possible. Religion really means *right*—right knowing and doing. It should not be a form, but a fact. All nature is right, therefore happy. Thus, to
- ✧ realise happiness is to realise our union with nature—to touch it and know it touching us, filling us, claiming us, living in us, is not to know either disappointment or
- ✧ dissolution. If the British race is to be a prolonged power in the earth, it must cease to be religious in the exclusive sense, and realise itself to be an organic unit of the universe, conform to the universe, and know it as fulfilling its own need and power. In this way only can the British race realise its true greatness and office—namely, by using its knowledge of right, to confer righteousness on the races of the earth. Not by

imposing missionaries upon those whom they call heathen, but in knowledge and reason doing the duties which she has to perform as a mighty nation in a world of progress, will Britain attain lasting greatness and secure a prosperous longevity. Knowledge, tolerance, adaptiveness to need, world-intercourse by supplying and being stimulated to supply human exigencies—in these lie nature's principles of life, right, and productiveness.

This digression, by way of illustrating that neither religion nor mere ethics have in them the elements to real human progress. They cannot of themselves solve the problems of life. Physical science alone can do that. The human intellect is more than a mere throbbing sense to be allayed by recording sensations. It is the sum-total of all the senses, and more. It is the interpreter of the universe, the revealer of eternity. It shows to man, and holds out to him, a promise of all possibility. In that promise only is there satisfaction, or a solution of truth. When there is no more an external or material universe in which men may live and find their life-interest, nothing for their energies to search after and know; when there is neither earth, nor sky, neither matter, nor space, nor existence; when eternal nothing—which fable and faith say there was at first—returns again, and the final atom is annihilated, then, and then only, will human reason cease and be not, and science and truth shall be no more. But we shall not have to wait very long for emancipation from the yoke of the unreal and unknown. Religion itself is wearied of its long tyranny. The frantic straining of the various sections of the Christian Church to shape their creeds into something like common sense and uniformity is less worthy of them than are the feats of legerdemain by one who professes no higher aim. It will exceed the wit of theologians to arrest the ebb-flow of a religion that

demands credence exacted by the authority of priest or presbyter.

The struggle for existence always gets along best when it has the least to do with ideals. Men want, and will have, ever more insistently, the actual and knowable, from which doubt and fear are divorced. Only let men know all that they are born into—*i.e.*, the universe whence they came and whither they go, the laws of being which invite their knowledge and respect—laws that are perfect, abhorring distrust and all ephemeral schemes of life—and they will possess a religion of right living which alone can yield the happiness which they are entitled to. If Christianity can aid men to return to nature, to the authenticity and integrity of her laws and taught by her authority, which is the authority of the universe, let it do so. But Christianity is not knowledge. It must come to terms with science. The true natural man whose knowledge of the universe makes him true, and to whom it is no parable, is a higher type of religious or right manhood than the religious idealist who squanders his energies in attempting to make something out of nothing, hoping in an imaginary immortal state to be a better, if a less useful, being. Providence and knowledge, or faith and science, can have no partnership. The reign of physical law, which is its own authority, cannot acknowledge an exoteric providence. The universe is supreme.

CHAPTER VI.

LIFE: A REASONABLE SOLUTION

From what has gone before, which, although somewhat discursive, is intended to lead up to this chapter of our subject, the reader will be prepared to consider the problem—What is life?

Life is neither a first nor a final something, since it had no beginning and can have no end. Using the term
* “life” as popularly apprehended, we venture to say that life is neither a principle nor a fact—by fact we mean a scientific entity. It cannot be called on that ground, the first or chief thing in the universe, or of supreme value. Call it a *proof* if you will—the supreme proof of the eternal universe, since it demonstrates it. The opera-
* tions and manifestations of life depend on the chemical properties and activities of matter in motion. Life, therefore, is a chemical sequence of material motion or energy. A sequence in matter is cyclic, uncaused.
* It co-exists with and in matter as a signal or proof of matter-motion.

Life is, therefore, not *itself* a concrete entity, but an intrinsic evidence of concrete matter—not fortuitous, not imparted, but an intrinsic sequence or demonstration of matter as a concrete eternal fact. Life is thus the evincement of a fact—the fact of the universe, organic and inorganic. It implies a something not itself, but something to be witnessed to and affirmed; and by affirming it the demonstration of the concrete fact is made complete.

Since all things exist in relation to each other, and so constitute a universe, and since matter in motion is demonstrated by what we call life, it must have been for ever demonstrated that the fact and the proof of the fact are eternal. Individualised organic forms, therefore, if our premises are reasonable, are *transformed*, rather than *new* phenomena. We tried to show in a former chapter that the universe is a decentralised aggregation of infinite parts or units, and, being eternal, those infinite units in conjunction as a whole must have ever been repeating, in cycle order and sequence, forms of individualised organic beings. To suppose a different order of procedure from this is to suppose eternity entirely different from what it, at least, seems to be. To fully realise life as an eternal manifestation of the fact of infinite matter, we must renounce the notion that the forms of life so familiar to us on this planet of ours are the only or the highest or even the lowest, which from eternity have abounded in far older, if not more important, systems of the universe.

Position in space in relation to centres of energy and attraction will necessitate different atmospheric conditions and different chemical arrangements of matter. Energy will branch off in other forms not less forceful in sequence, but probably in more productive sequence than our earth displays. Thus, life-forms in other worlds will probably bear little resemblance to those with which we are familiar in this, and which we are apt to think are the highest, if not the only, sequences of universal energy. A little distance farther away from or nearer to the sun would have produced an inconceivably different earth from that which we know. Comparatively, we may exhibit as human beings on this planet a very low grade of development. This is worth remembering when we think of the universe. In all *this infinite* variety of form and motion demonstrated

by the term "life," it is well to remember that matter and energy are essentially one fact, and that life everywhere is the proof. As proof does not make the fact, but shows the fact, life as a something *is not*, and is merely a conventional form of speech.

Matter is so infinitely more than life (meaning by life something popularly inferred) that it requires no proof of its existence. Strictly speaking, matter offers no proof of itself, any more than a system of mechanism does. It is, and it is absolute—gives nothing, asks nothing. It is the all, and everything. But men, being parts, try to realise their relation to the whole by seeking proof where none is necessary. Since that is so, we must deal with life so-called, as the proof of that which men desire to know. Life, as the proof or witness of matter, could neither have been antecedent nor subsequent to that of which it is the witness, since that which it witnesses to is eternal.

If matter were so constituted that no evidence of its motion could be perceived, two inferences would be suggested—namely, either that no organism existed which could supply such evidence, or that matter, as the universe, would be in a condition equivalent to non-existence, since any sense of it there could not be. But we know that there abound infinite proofs of the existence of the universe, not because proofs were wanted, but because it is so constructed that its infinite parts exist by interdependence and conscious change.

Life, then, is the demonstration of the fact of a physical universe. We have said that life is not a principle. It cannot be classified with magnetism, gravitation, electricity, or chemistry, which are well-defined forces or principles. These latter are their own evidence, while being related forms of an absolute force. But life is not a form of force; it is not even a

force. It has no potentiality in the sense that any one of the forces mentioned has. Strictly speaking, it is less even than a function. It is a manifestation of something, and the something manifested is eternal matter—energy—the unit in existence. In describing a work of art, a piece of sculpture, or a landscape painting, the term "complexion" is frequently used to signify an intrinsic merit, beauty, or delicacy pervading it. Without that subtle something signified by complexion, a work of art would have no interest, and, except for an insignificant few, might not exist. In a similar way may life be called the complexion of energised matter. Another illustration of what we mean when we say that life is the complexion or expression not of itself, but of something concrete, may be presented in the term "sound." Sound is not an instrument, nor does sound flow into an instrument from the outside; but it manifests or expresses something intrinsic to an instrument—namely, the material composing it. Sound does not impregnate matter, but matter is pregnant with sound.

We are not now touching the sound-vibration theory, only sound as a manifestation or proof of the real something which claims supreme concern, and of which sound is the sign of its value. Sound proceeds from something concrete, not from non-something. But sound is not essential as proof of the actuality of the something it proceeds from, just as universal matter is not under necessity to give proof of its existence, although life is such proof. Life, therefore, cannot with any degree of accuracy be defined as *something*, since it possesses nothing, neither substance, form, nor quality. It is nothing in itself; it is merely an expression of the real and actual, whose existence is everlasting. Life does not impregnate matter, but matter is pregnant with life, and *motion or life* is the proof. But as neither complexion

nor sound can be said to cease, except as relatively when the forms of which they are expressions are suspended or transformed, but are inalienable from all such forms, so life cannot be said to cease, although the specific form in which it is manifest, at any particular time, is removed or displaced; but it is continuous or contemporary with all matter and in all forms of matter, whether these forms are in process of disintegration or integration. It is only a manifestation, significant of the chemical action of the eternal energy of eternal matter. In other words, wherever matter is, there is also its motion or energy, and that motion or energy which is seen by us we call life. The term is only one of convenience, therefore, and means nothing in itself. Only when matter and energy cease to be will the proof of their existence cease; and, since the first is impossible, life, as the proof of the one great Fact, will be continuous with the continuity of matter. Everything that exists is subject to constant change. Identity of form, when it is exhausted and gone, is gone for ever; but matter in motion, or what is called life as proof of the fact, goes on unceasingly. We have referred to Aristotle's theory of matter and motion, and would take this opportunity to refer to it again, to gather (what we venture to call) proof from it in favour of our own definition of life, although our proof, such as it is, is in conflict with Aristotle's theory. In order to suppose, as Aristotle does, that matter is eternal, but was "passive" or motionless—i.e., without any sign of life—until a conjunction with an external universe of motion supervened in eternity, we should have to assume a totally different constitution of the universe from that which science has formulated. How the universe of inert matter was held together in space during its motionless probation Aristotle does not say. Nor does he say how or why the passive, unsignalled

universe of matter suddenly ceased to be passive or "inert," and began to move because another universe of "living motion" somehow impregnated it; nor does he say where the universe of "living motion" came from. Where were, or what were, the centrifugal and centripetal forces during this process? Could they have existed at all? Aristotle does not say. Every schoolboy knows now that resistance and attraction, or their equivalents, are just motions of matter in action and reaction for the preservation of the balance of parts and the whole, and that they demonstrate matter's own intrinsic chemical energy.

Aristotle's theory of matter and motion as two *unattached* entities existing in eternity, but, somehow, without sense or reason, or by any law of being, coming together to form the universe which now exists, seems to us to be altogether untenable. The theory of two universal entities is one of the remarkably few—if not the only one—which Aristotle's unequalled reason failed to reconcile with his own science.

The chemical constitution of matter makes inertia or passivity impossible to any part of it. Either the universe is a self-dependent, self-acting unity, or it is not. If motionless, it must be so in every part of it; if in motion, it must be so in every part of it also. We have already discussed this question under the aspect of material consciousness. Either matter or sections of matter, however conditioned, are themselves actively conforming to their environments, or, being parts of a system whose motion is eternal, they are borne along in the universal activity. And the motion of the least and the great is the same motion—reciprocal and eternal. By Darwin's theory of descent, science almost for the first time grasped the idea of the unity of existence so reasonably that a

mechanico-causal explanation of even the most intricate organic phenomena respecting the origin and structure of the organs of sense is no more difficult, in a general way, than is the mechanical explanation of any physical process, as, for example, earthquake, the courses of the wind, or the currents of the ocean. We thus arrive at the extremely important conviction that *all natural bodies* which are known to us are *equally animated*, that the distinction that has been made between animate and inanimate bodies does *not* exist. When a stone is thrown into the air and falls to earth, according to definite laws, or when in a solution of salt a crystal is formed, the phenomenon is neither more nor less than a mechanical manifestation of life, than the growth and flowering of plants, than the propagation of animals or the activity of their senses, than the perception or the function of thought in man.¹

All organa and inorgana, therefore, participate in the motion of the universe; and, whether they propagate or do not propagate, organic or inorganic bodies are composed of matter which is identically that of the universe. Particles of living matter—we use the term living matter for convenience—are not solid; they float in ether—we might say they are perforated by ether—and are kept in mass—*i.e.*, in their specific or individual form—by gravitation of affinities.

Each particle is itself a magnet. Gravitation or magnetism is another form of matter-motion which the word "life" includes, and is a sequence of chemical affinity towards polarisation or conformity to the poles of a magnet. It is not enough to say that ether plays a potential part in the constitution and motion of matter, since both ether and matter are relative and equivalent parts of a system more absolutely identified than the stones of a building are with the complete edifice. Mere motion could never have been a self-existent entity or extraneous to matter, projected somehow into and incorporated with matter, as Aristotle thought, except on the untenable supposition of the existence of another universe external to the

¹ Haeckel, *The History of Creation*.

concrete universe of matter. On such a supposition, the universe of motion in its relation to matter would, by imparting its motion to matter, be its virtual ancestor or creator. But Aristotle held that matter was never created. The question, therefore, arises at this point suggested by Aristotle's theory: Whence could the ancestor of the universe of matter come; and if eternal, as Aristotle says it was, where was it eternal, since motion implies something moving in space, and which ultimately became incorporated in matter? Could it have proceeded from a previous ancestor, and it by yet another and another whose antecedents receded into as many infinite spaces as these would imply eternities? The supposition involves an infinite procession of ancestors to account for the sequence of an active universe of matter, as the sequence of a universe of motion. And since there cannot be either waste or loss of anything that once existed, where can that infinite procession of ancestors have gone? In eternal space there are no mausoleums of exhausted universes. There never was a burial of a universe. Life, then, as the sign of matter-motion, cannot have been imported into matter, is not super-material, but is of the material, as perfume is of a flower. And yet life is not (as this simile might imply) the essence or effluence of matter, for then it would be something; but it is impalpable nothingness, without the value even of being a secret. We are forced to resist Aristotle's theory as incompatible with the facts of science, and as inconsistent with his own reason. It is extremely difficult to get to the exact meanings of terms, and to apply these meanings without giving severe offence to use and wont. So, when we say of life and motion that they have no existence in themselves, we know that we shall give offence to those who use them as they are popularly regarded.

Accurately rendered, motion and life are nothing, but they are manifestations of something. Motion is not something *in* matter, not corporate, not potential as something existing, not even abstract; but, like life or time, it is only a term of convenience. In the further use of the terms "motion" and "life" we shall use them in the sense we have just given to them. The monistic theory of the universe is the only one which furnishes a solution to the phenomenon of life. The dualistic idea of a spiritual as well as a material existence was the growth of the three great Eastern religions, Mosaic, Christian, and Mohammedan, whose creation-myths and theologies still dominate the greater part of the civilised world.

An illustration of what we mean by saying that motion has no independent existence may be taken from sunlight, which demonstrates that the sun exists—the evidence of solar substance in intense chemical action, and only visible by impinging on atmospheric dust. Motion might be called the evidence of inorganic, and life the evidence of organic, existence. They both represent the absolute under somewhat differing cosmic conditions. Organic life and inorganic motion, we repeat, are synonymous terms; the former is used to indicate complex forms, the latter the simpler matter. Motion and life, as witnesses to the one great fact of existence, cannot declare themselves. It is not themselves that they declare, since they are nothing materially, physically, or psychically. Evolution is another term coming under the category of demonstration or evidence.

All the phenomena of life depend on mechanical and chemical causes which are inherent to the nature of matter itself. The simplest animals and the simplest plants, which stand at the lowest point in the scale of organisation, have originated and still originate by spontaneous generation.

If the hypothesis of spontaneous generation is not accepted, then we should have at this one point in the theory of development to take refuge in the theory of a supernatural creation. We would have to assume that the first organisms, or the first few organisms from which all the others are derived (at all events, the simplest monera or primeval cytods), were created as such, and that the Creator conferred upon them the capacity of developing further in a mechanical way. I leave the reader to choose between the miraculous idea and the hypothesis of spontaneous generation. In my opinion, the idea that the Creator should have interfered at this one point in the regular course of the development of matter, which otherwise proceeds entirely without his co-operation, must be as unsatisfactory to a credulous as to a scientific mind. If, on the other hand, we assume for the origin of the first organisms the hypothesis of spontaneous generation, which for reasons discussed above, and especially as to the discovery of monera, has lost its former difficulty, we obtain an uninterrupted, natural connection between the development of the earth organisms which it has produced; and, further, we also recognise in the last still doubtful point the unity of all nature, as evidenced in evolution and development. The theory of descent, or the doctrine of filiation, acquaints us with the natural causes of organic forms and life. This doctrine affirms that all organisms—that is, all species of animals and plants which have ever existed on the earth—are derived from one single, or from a few simple and original, forms, which have developed themselves in the natural course of a gradual change. It shows us why individual animals and plants must develop at all, and why they do not come into life in a complete and perfect state.¹

Haeckel's spontaneous generation theory confirms our rendering of the term "life," that it is only a manifestation of organic conditions.

The earliest scientific observers, five or six centuries before Christ, postulated as the ultimate source of life in man and beasts a volatile "spirit of life" (*pneuma*); a lower "spirit of life" resided in the heart, a higher in the brain. Galen, a Greek physician, was the first great anatomist who analysed by the comparative method—by vivisection and physiological experiments—the functions of the organs of the human body.

Galen reduces all the different functions of the body to three groups, which correspond to the three forms of *pneuma*, or vital spirit. The

¹ Haeckel, *The History of Creation*.

pneuma psychicon—the soul—which resides in the brain and nerves, is the cause of thought, sensation, and will (voluntary movement); the *pneuma zoticon*—the heart—is responsible for the beat of the heart, the pulse, and the temperature; the *pneuma physicon*, seated in the liver, is the source of the so-called vegetative functions, digestion and assimilation, growth and reproduction. He especially emphasised the renewal of the blood in the lungs, and expressed a hope that we should some day succeed in isolating the permanent element in the atmosphere—the *pneuma*, as he calls it—which is taken into the blood in respiration. More than fifteen centuries elapsed before this *pneuma*—oxygen—was discovered by Lavoisier. In human physiology, as well as in anatomy, the great system of Galen was for thirteen centuries the *Codex aureus*, the inviolable source of all knowledge. The influence of Christianity, so fatal to scientific culture, raised the same insuperable obstacles in this as in every other branch of secular knowledge. Not a single scientist appeared from the third century to the sixteenth century who dared make independent research into man's vital activity and transcend the limits of the Galenic system. It was not until the sixteenth century that experiments were made in that direction by a number of distinguished physicians and anatomists—Paracelsus, Servetus, Vesalius, and others.¹

Even the most zealous believers in *teleology* for a century afterwards—until the middle of the nineteenth century—stopped short in presence of a vital force in the human organism whose cause and origin, whose sense-activity of reproduction and development, seemed so mysterious that it was impossible to attribute it to simple physical and chemical processes, and, therefore, ascribed it to a supernatural power. There was one exception, and, as far as we know, the only one—Johannes Muller, of Berlin—who, by his method of critical comparison, demonstrated that the vital force was not above the physical and chemical laws of the rest of nature, but entirely bound up with them. "It was, in a word, nothing more than life itself—that is, the sum of all the movements which we perceive in the living organism." Muller's method was to begin with the simplest life phenomena of the lowest animal, and follow grade by

¹ *The Riddle of the Universe.*

grade its gradual development up to its highest known manifestation in man. The cellular theory speedily followed Muller's physiological facts, and revealed to science a comprehensive survey of the wonderful realms of the phenomena of life. The greatest contributions to science respecting embryonic life manifestations were given to the world by Darwin. He put into the hand of Science the long-sought key which gave admission into the time-sealed realms where physical laws were working through eternity.

All growth proceeds from a single cell. In the hatched egg there is at first no trace of the coming organism; instead of that, there will be found on the "top of the yoke a small, circular, white disk. This thin germinal disk becomes gradually round (*nucleus*), and then breaks up into four folds lying upon each other; these are the rudiments of the four chief systems of organs—the nervous system above, the muscular system underneath, the vascular system (with the heart), and, finally, the alimentary canal." One part arises from another, a true "epigenesis." The production and development of the human ovum or cell is in no way different from that of all mammals. The nuclei of the two human cells carry with them the stamp of the parents.

Thus by the sensitive perception of the sexual nuclei, following upon a kind of "erotic chemico-tropism," a new cell is formed which unites in itself the inherited qualities of both parents; the nucleus of the spermatozoon conveys the paternal features, the nucleus of the ovum those of the mother to the stem-cell from which it is to be developed. That applies both to the bodily and to the mental characteristics.¹

It would serve no good purpose to our answer of the question, "What is life?" to trace here and now the development of the science of biogeny and its many modern diverging branches. Suffice to say that the very highest

¹ *The Riddle of the Universe.*

modern intellects—Darwin, Haeckel, Huxley, and others—have demonstrated beyond a doubt to all who are open to conviction that the human organism is a consistent product of matter by natural and mechanical evolution, which, as a consistent eternal force, must begin not with biogenesis, but abiogenesis. There is neither need nor reason to account for man's appearance on the earth by ^{*}super-material or spiritual interference. He is no more wonderful (except as being more complex) a sequence of ^xthe forces of the universe than is your dog, horse, or elephant. The life manifestations of men are identical with all those of organic being, and even of inorganic matter. If we are right (and, as science unfolds more and more the facts of the universe, we think it will verify our belief) in affirming of life that it is evidence only of material energy and nothing more, what prodigious facts concerning the universe are yet to be revealed to us, through the medium of such evidence or proof, as the endless æons roll on? The momentum which is accumulating at every stage of development in the human brain alone—as a motor impregnated with the power of the universe—will in coming ages issue in sequences as far advanced from ^{*}man's present condition as his present condition is from that of his primal ancestor. Why not? If, then, our ^{*}contention is rational, and in unity with the facts of science, surely the deduction that life, in the strict sense of the word, signifies nothing cannot be irrational? It has neither form, substance, nor identity in itself; it cannot be seen or felt, nor has it anything by which it may be further known. Life will for ever remain but a sign or proof—not that it is something—but that of which it is the sign is the infinite Universe. What [†]will any amount of searching for it as a something end [‡]in? We answer, in utter disappointment. It would be as rational to search for shape in the hope of feeling or

weighing it, or colour in the hope of measuring it, or space in the hope of bounding it. How chimerical were the dreams of the ancients in their vain pursuit of life! Equally fruitless will every effort of science be to find life; it is beyond finding, for it is not. When the age of our planet is trebled, and the human intellect has reached a stage of perceptive activity or such a conscious affinity with the substance of the universe as to know it as it is, even with such a transcendent accuracy of perception the mind will have to confess that life is but a term—a most misleading one, and absolutely erroneous. Like almost all religious terms, the word “life” was coined with an indefinite reference to unknown phenomena. “The comparison of the human breath, for example, to the wind is a very old one. They were originally considered to be identical,”¹ and gave birth to the idea of hidden life or soul. The *anemos* and *psyche* of the Greeks, and the *anima* and *spiritus* of the Romans, were originally all names for a “breath of wind”; and by an easy transference of these to the breath of man they soon came to signify “the living breath,” which finally became identified with the “vital force” and the “soul” itself, or, in a still narrower sense, with the transcendental “spirit” of man. “From this the imagination went on to derive the mystic notion of individual ‘spirits’; these also are still usually conceived as aeriform beings with the physiological functions of an organism, and they have been photographed in certain well-known spiritist circles.”² Science has achieved, by experimental physics, during the last decade of the century, the reducing of all gaseous bodies to a liquid, most of them, also, to a solid condition. If, then, as has been and is still supposed, the substance of the

¹ *The Riddle of the Universe.*

² *Ibid.*

soul were gaseous—"etheric soul"—which when a man died flew out from the rejected corpse with the last breath, it should be possible to liquefy it by the application of a high pressure at a low temperature. We should be able to catch the soul as it "breathed out" at the moment of death, condense it, and exhibit it in a bottle, or in solid, as the man's immortal soul. An "etheric soul"—i.e., a psychic substance, or something equivalent to the material ether, and which, like ether, is supposed by many (and must, if real) to pass through the ponderable elements of the active protoplasm or the molecules of the brain—cannot possibly account for an individual soul. "Neither the mystic notions of that kind which were warmly discussed about the middle of the century, nor the attempts of modern 'Neovitalists' to put their mystical 'vital force' on a line with physical ether, call for refutation any longer." The "etheric soul" is absolutely untenable. The *anemos* or *anima* is a physical organic function, the centre of whose activity is in the active or energised protoplasm of the brain.

In the higher animals the "matter" of the soul, or *anemos*, is a part of the nervous system; in the lower nerveless animals and plants it is a part of their multicellular protoplasmic body; and in the unicellular protists it is a part of their protoplasmic cell-body. In this way we are brought once more to the psychic organs, and to an appreciation of the fact that these material organs are indispensable for the action of the soul; but the soul itself is *actual*, it is the sum-total of their physiological functions.¹

Some little acquaintance with the physiological basis of the soul accounts for the great divergence of opinions current respecting psychology. As exact knowledge is attained, the confusion of opinion for a time will probably increase, because it will be more pronounced

¹ *The Riddle of the Universe.*

But as some definition may be looked for, in our opinion it will take the form of a natural science—namely, that soul is a natural function of matter. The science of the soul is, therefore, psychology. This science can be regarded as identical with all others, since science can only deal with the actual. All empirical knowledge and metaphysical speculation are in themselves the workings of soul in its process of evolution. The dualistic theory—that substance and soul are two independent entities—must be abandoned; they must be conceived of universally as one—namely, matter in motion. The only possible sphere for further discovery of the nature of the functions of the soul, or *anemos*, or “breath of life,” is not in trying to locate it as an entity, but as a function within the sphere of cosmos, or the universe itself. How can our mental activity, or the problem of consciousness under its various forms of intelligence and volition, be explained by material conditions; how does substance, under certain conditions, come to feel, desire, and think? These functions are intrinsic in matter, as substance and energy. We have already discussed this subject in our treatment of consciousness, but a further brief notice of it may be taken here in its relation to the problem of life. The key conception of the universal problem is the unifying law of substance as an expression of the eternal conjunction of action and reaction, which are only separable in our thought of them. “The law of the persistence of matter and force” is the basis of exact chemistry. Extended infinite substance and all-embracing energy as one is the root conception of the Divine Power and Invisibility. Ignorance of the laws of the former occasioned the ignorant and superstitious assumption of the latter. The truest thought of the ages is that every object cognisant to us, and
✕ every individual form of existence, are but transitory—

"accidents or modes of substance." "These modes are material things when we regard them under the attribute of extension, or occupation of space, but forces or ideas when we consider them under the attribute of thought and energy." In other words, that which thinks, feels, and desires in us is not due to an independent entity called "soul" or "spirit," but is the normal and eternal energy or motion of matter under certain favourable conditions of chemical activity. Such motion is not confined exclusively to the brain of man, but it is in universal action wherever there is an organism, a molecule, or an atom. It is most interesting to a student of science to observe how completely the soul's aspect of life can be changed by an interference with or loss of some physiological organ or function. It is not so well known as it should be that in the case, for example, of men made eunuchs the entire attitude of the mind undergoes a psychic revolution, although the intelligence is preserved. The voice, feelings, and emotions consequent on emasculation become physically the antithesis to those of a normal man. The world in which a eunuch lives is a world absolutely different to an unviolated man. The soul, or brain function, suffers just as seriously as any other related organ or function suffers by the deprivation of any one of its natural and normal modes of motion or resources.

A further solution of the law of force or energy may help to arrest the foolish and profitless pursuit of the mythical problem of life. Towards this end, modern science has been able in the "prodynamis" theory of substance to simplify a basal conception of substance. This theory, in the opinion of some scientists, has become more than a mere theory. J. C. Vogt assumes "prodynamis" to be the primitive force of the world, or the condensation of a simple primitive substance which

fills infinite space in an unbroken continuity. This mechanical form of activity "consists in a tendency to condensation or contraction, which produces infinitesimal centres of condensation. These minute parts of the universal substance are something of the nature of atoms of the kinetic theory, except that they have sensation and inclination, with souls in a certain sense." By a process of physical evolution these minute centres of sentient matter become huge stellar and planetary systems, but in the same process of evolution centres of disturbance are made. As a consequence of these centres of disturbance amid matter and ether, there ensues a ceaseless struggle between antagonistic elements, and this struggle is the source of all physical processes. This disturbance is also the source of all psychic activity. So that science, by means of comparative chemistry and anatomy, proves that mind or soul only indicates a form of energy. Nothing in itself, soul is but indicative of matter under special chemical conditions, all of which are transitory in form and sequence.

There is almost nothing so interesting as the various elements of matter in their many combinations and relative proportions, as displayed in their action between the extreme of placidity and intensity. "Every shade of inclination, from complete indifference to the fiercest passion, is exemplified in the chemical relation of the various elements towards each other." This is the fundamental solution of all motion, physical, organic, and psychic.

Religion may continue for some time yet to fan the superstitious belief that, in some miraculous manner after death, men will continue to live and know immortality, although organic dissolution will have stripped them of every means of identification and all the conditions essential to continued existence. Identity implies

uninterrupted continuity of personality. That which had an existence as an organism was not life as an entity, but energised or active matter; and dissolution, or disintegration, only chemically changed the relations of the organic matter. Dissolution does not change either the substance, or the continuity, or the energy of matter. The organic change called death is a process of reconstruction by regeneration of exhausted parts. It does not prolong the old identity by some occult process into a new sphere of being, but it sets free the various parts which formed the individuality of the organism, and uses these parts to build up other structures, and thus carry on the continuity of the processes of the eternal history of matter. Thus, that which ceases to exist was a specific, but an ephemeral, form of energised matter, and cannot, therefore, be the same as that which afterwards begins to exist from the degenerated matter of the old organism, for this would be to suppose a being to exist after it has ceased to exist, and to have existed before it was produced, which is absurd.

Professor Crookes, in one of his Gifford Lectures delivered before the University of Edinburgh in 1891, admitted, as to the origin of thought, psychic and materialistic, that the subject is "beset with difficulties." He advanced, as a solution, the theory of an "interacting ego" which "is not to be identified with thought, and which may exist while thought is in abeyance"; and he went on to say that, while "it is not to be identified with ponderable matter, it yet exercises over ponderable matter a sort of command." He attributed thought to the "interacting of the ego on the organism with which the ego is associated." "The ego," he said, "is something the destruction of which is not involved in the destruction of the body, inasmuch as it does not consist of ponderable matter—something

which might conceivably, without any breach of continuity, preserve the identity between the man who dies and the same man in some different stage of existence." In remarking on this not very original theory of Professor Crookes, as suggesting a solution of the phenomenon of thought which is "beset with difficulties," we would venture to point out that one of these difficulties—perhaps the only real one, though not insuperable—is in the antagonism in his own mind between his scientific attainments and his spiritualistic trend derived from a superstitious ancestry. This is, in his case, a compulsory association of incompatibles, between which there is no possible play of affinity, and which association always involves confusion of thought. The Professor thus must ever find himself at the parting of the ways. When he would choose a scientific, and therefore a true, method of solving a difficulty, just as he is at the point where the difficulty would vanish, he is abruptly arrested by the "interaction"—to use his own term—of "something" claiming "the requirements of the spirit," which makes him sceptical of the issues of his own reason. He who would achieve specific results in any section of natural science must be a scientist only, uninfluenced by spiritism. He must know his subject as he sees it, weighs it, feels it, and analyses it. He ought to have nothing to do with spiritism or spirit. The Professor speaks of something constituting the ego, "which is not to be identified" either with "thought" or with "ponderable matter." What is this "ego" which he calls "something"? The Professor offers no explanation of its constitution. Inferentially, he means that it is imponderable and supernatural, and thus begs the entire question. How that which is imponderable and supernatural can be classified in the category of "Something" reason is at a loss to

comprehend. How does Professor Crookes know that it is anything at all? "Something" is merely a term that his absence of knowledge invents as an equivalent. It is therefore, it seems to us, the resource of ignorance to gain apparent knowledge, and can supply no solution worthy of the name. The only use the term has is that of a dummy or a figure of speech. Professor Crookes's theory is that, while the ego "interacts" between thought and matter, "and commands matter," and is thus in the closest conceivable connection with thought and matter, yet, never having itself produced a thought or roused an emotion, it can, he implies, command thought and emotion, and perpetuate the entire mental history of the person who dies, yet lives "in some different stage of existence." This would undoubtedly be a miraculous transaction, and, if it could be proved, would settle for all eternity the theory of a future state. Elsewhere we have discussed the subject of soul-cell as the material seat of psychic energy or consciousness—the psychological unit. We repeat again—human consciousness is identical with cosmic energy evinced in magnetism, gravitation, electricity, and other forms of motion, and possessed, in degree, by everything organic and inorganic that exists. There is absolute proof, in the most familiar phenomena, of the complete dependence of the "interacting ego" of Professor Crookes on chemical changes in the substance of the brain. Coffee, tea, wine, beer, camphor, chloroform, etc., stimulate or deaden it. It is a changeable function, and always open to modification from inner and outer causes. Were it an immaterial entity—an ego—it would be independent of the anatomical organs. Ego was long ago classified as one of the many ghosts of imagination, and has vanished in a way characteristic of ghosts. If there be a future state into which we slide by death, and identify ourselves

there, must not our identity depend absolutely on a recollection of ourselves in time? But if our "ego is not identified with thought," is independent of memory as well as of "ponderable matter," and therefore of all sense which is the occasion of brain activity, how could the "ego" identify itself without these means of doing so? Is it rational to say that, when a person dies and his powers pass away, there is no break in the continuity of his personality? If Professor Crookes can discover in the plasma, sperm, or human cell his "Something" that is "not to be identified with thought or matter," yet is a person, or "ego," which can slide into a future state without any impression of having lived before, and identify itself, he will not only establish the invincibility of his imponderable ego; he will make the grandest discovery of all time, and achieve the greatest triumph of the human mind.

Science may not any longer continue its search for the secret of life. Life has no secret to reveal, since life itself, not being an entity or anything, cannot exist.

Science will continue to achieve triumphs of discovery in matter greater than any it has hitherto won. With the searchlight of certainty, it will illuminate realms celestial and terrestrial yet undiscovered; it will step from discovery to discovery with fearless foot, holding in its hand the lamp of truth that burns for ever.

The supernatural and miraculous, which exist only in the emotions and imaginations that are still fettered by the fear of the unknown, will vanish like the ephemeral allurements in a dream, or the tormenting mirage of the desert.

Meanwhile, let philosophy and science abandon their pursuit of a chimera, since they can never discover a *non-entity*. Their time and genius are too precious to

waste in attempting the impossible. As well "plough the sands" to find a foundation, or scoop the ocean to find a vacuum. Existence, not in any limited sense, but in its boundlessness and complexity, only awaits annexation to, and manifestation among, the possessions of human knowledge. The deeper science penetrates, and the more it knows, the more efficient it will be in finding out and appropriating the resources of existence; and the less and less will a belief in the supernatural obstruct human reason, until the supernatural will vanish in the known and knowable. Reason or science can wait patiently while it removes all obstructions lying in its way, and moves on to the discovery and solution of the great facts of existence incorporate in the eternal reality of matter.

CHAPTER VII.

MAN IN RELATION TO ETERNAL MATTER

It was our aim in the last chapter, while directing attention to the pathetic persistence of men all through the centuries in attempting to solve the problem of life as something which might be found and localised, to point out at the same time the utter futility (as we think) of all such prolonged searching. We have given our reason why neither philosophy nor religion, nor even invincible science itself, has succeeded, or ever will succeed, in discovering what is erroneously called "the problem of life." We have endeavoured by such reason and scientific evidence as we are in command of to show that the problem or principle of life (so-called), sometimes called spirit and sometimes ego, is as undiscoverable as mere symmetry in statuary, or mere sound in an instrument, neither of which are facts in that they exist.

We have shown, or tried to show, that life itself is not an entity, but only the evidence of the absolute entity—symbolic of something, denoting something, as symmetry and sound denote the objects which they imply. From this new interpretation of existence thought may, with infinite purpose and anticipation, desist from pursuing a mere myth, and realise instead the boundless fact of eternal substance and energy. Individual existence is too short to dissipate effort in attempting the conciliation of the old faith and the new gospel—namely, religion and science.

The one is flimsily built upon a myth of the imagination, and, therefore, ephemeral; the other is constructed upon the facts of science, permanently demonstrated by human knowledge. And just as comparative zoology in relation to the complete reform it has achieved in biology, and especially in anthropology, whose realm of mystery it has dispelled for ever, has exposed the pretensions of the special creation fable, so will the theory of organic existence which we have endeavoured to lay before our readers open up a true knowledge of the construction, unity, eternity, and self-regenerating functions of universal substance.

Dr. Alfred Wallace, at the end of his *Book of Travels*, remarks with truth and terseness:—

Compared with our wondrous progress in physical science and its practical applications, our system of government, of administering justice, of national education, and our whole social and moral organisation remain in a state of barbarism. This social and moral barbarism we shall never overcome by the artificial and perverse training, the one-sided defective teaching, the inner untruth and the external tinsel of our present state of civilisation.

It is, above all things, necessary to make a complete and honest return to nature and to natural relations. Man will then, as Fritz Ratzel has well remarked,

no longer consider himself an exception to natural laws, but begin to seek for what is lawful in his own actions and thoughts, and endeavour to lead a life according to natural laws.

He will come to arrange his life with his fellow-creatures—that is, the family and the State—not according to the laws of distant centuries, but according to the rational principles deduced from knowledge of nature, politics, morals; and the principles of justice, which are still drawn from all possible sources, will have to be formed in accordance with natural laws only.

In this chapter it will be our aim to show that man is only a relative, active, conforming unit in relation to the universe of which he is an integral part. Training and

credulity, rather than reason, still induce some people to prefer the "special creation" fable to account for man's existence on the earth, rather than the theory of evolution. Man is, according to most religions, the offspring of a Divine, or super-mundane, creative Power, and, therefore, he is a supernatural and spiritual entity. He is represented as having been made absolutely perfect, but was somehow deformed by sin. Where sin came from remains a mystery. God has not thought it necessary to reveal its origin, if it is known to Him, although He is supposed to know and comprehend all things in heaven above and in earth beneath. Being endowed with a marvellously adaptive and disciplined ingenuity of manipulating Bible tradition to suit its claim to Divine inspiration, the Church has managed to prolong the fallacy. It attaches to an unswerving faith in the supernatural authority of the Scriptures man's highest happiness in the earthly life, and his eternal safety and happiness in a life after death. It makes eternal salvation depend on the repression and subjugation of natural affection, pleasure, and desire; the curbing or the extinguishing of earthly ambition; and an abhorrence of one's self because of inherited guilt and vile affections. To his God man must present an attitude of utter baseness and self-abhorrence if he would hope to propitiate Him and share His favour and mercy. Yet the same self-abhorring, guilt-defiled Christians will reject with absolute dismay any suggestion of a family connection with the lower animals. They take delight in a pseudo-exhibition of their human worthlessness alongside of their claim to a Divine pedigree. That is the outcome of a dismal superstition. The more that men are opprobriously represented and atrophied of their natural functions and enjoyments, the more on that account is *their God* and Father glorified. Is this not a peculiar

effect of a religion and a gospel which have for their inspiration and intent the happiness and enlargement of the human soul? It seems to us that the scheme of orthodox theology, instead of being one of Divine love, is mainly one of malevolence.

In proportion, however, to the baneful teaching of the Churches as representing religion has modern science been acting as a corrective. It has proved itself a gospel of "peace and goodwill to men." By showing that there are no secrets in heaven or in earth, it has made all the resources of the universe accessible to human intelligence, and therefore to human prosperity and happiness. What boundless realms of research, knowledge, and power has religion practically forbidden the human mind to explore!

* The word "religion" has gathered round it a significance which it did not originally possess. Walking straight, fearless in life and conduct, was its original meaning, and this meaning it still connotes, though only when divested of its theological sense. In short, religion is loyalty to one's self as a first necessity; that being so, the true sequence will follow. The Christian attitude, speaking generally, is not, by any stretch of generosity, * symbolic of righteousness. It is certainly not the logical sequence of a righteous or religious conception. The first principle of a true scheme of religion should be loyalty to our human manhood and womanhood. Only in the knowledge of human worth can we rise to a perception of truth, goodness, and strength—the sum-total of righteousness. Says Vogt: "I verily do not know how to find a reason for attaching to the whole human family religion as an altogether peculiar characteristic." The religion referred to here is the theologic religion of fear and priestcraft. There is no question of the historic fact that dread of the priesthood condemned Europe to

physical and mental slavery for a period of more than 1,200 years. The same author says:—

The stupid idiot takes no notice whatever of thunder; the simpleton fears it as a mighty natural phenomenon the cause of which he cannot discover; out of the unknown x the heathen develops a God of thunder; the believing Christian lets his God thunder; and the intelligent man who knows anything of physics does his own thundering and lightning if he has the necessary apparatus. The scientist and the simpleton recognise as a natural phenomenon what the Christian and heathen recognise as divine; and religion was probably communicated by thunder, just as morality was inculcated by smashing and flogging.

In their inmost hearts Christians would rather believe—as it seems to them pleasanter to believe—that they are descended from a highly-developed abstraction, for thus is their human vanity flattered, as it was in the ancient times begotten, by a belief that the human race descended from gods and half-gods, of whose ancestry the gods themselves possessed no record. Bible religion is almost wholly responsible for the prolonged survival of human prejudice that makes religious people prefer the Old Testament Adam for their real progenitor, notwithstanding woes temporal and eternal, rather than our forest kindred of whom man is the natural development. If it is true that man is the sequence of mechanical evolution, and not of a special or creative act, he must divest himself of the fiction that he is supernatural, and regard himself in the light of science as the highest type of development of matter yet reached on this planet—not the final possibility, since the limit of development can no more be fixed than the potentiality of matter.

A celebrated author and divine once wrote to Darwin that he had “gradually learned to see that it is just as noble a conception of the Deity to believe that He created a few original forms capable of self-development into other needful forms as to believe that He required a *fresh* act of creation to supply the voids caused by the

action of His laws." With greater reason, and certainly with better logic, this clerical convert to Darwin's earlier theory might have perceived that in the existence of one cell there was the nucleus and potentiality of a universe, with all its infinite variety of inorganic and organic being. A little more study, supplemented by a little more reason, would have carried him to the conclusion that just as little did the original cell demand a creative act as did "the needful forms" which were developed by the self-action from "a few original forms."

Those to whom a belief in a supernatural creation is an evangelical necessity may rest satisfied with the confession of Darwin's clerical convert. They may reconcile, also, his admission with the whole Theory of Descent, for in the evolution of a single original organism there is the intrinsic momentum to develop all the others which have existed. In this view they will find more actual cause for admiring the power and wisdom of a Creator than in the independent creation of different species.

If, taking this (the theologic) point of view, we were to explain the origin of the first terrestrial organisms, from which all the others are descended, as due to the action of a personal Creator, acting according to a definite plan, we should have cause to renounce all scientific knowledge of the process, and pass from the domain of true science to the completely distinct domain of poetical faith. By assuming a supernatural act of creation we should be taking a leap into the inconceivable.¹

The history of the origin and conformation of our planet as discovered by science undoubtedly proves that its existence is due to mechanical and chemical action, and to these alone. The structure of the earth, as it is known to us, is in a fiery fluid condition. Its crust, composed of different strata on the surface of which organisms are living, forms, comparatively, a very thin shell round the fiery fluid centre.

¹ Ernst Haeckel, *The History of Creation*, vol. i., p. 392.

At a more remote period still our earth was in the initial stage of being a fiery fluid body. External cooling resulted in the formation of a hardening skin or crust of solid matter probably at no place on the earth's surface, then or since, of equal thickness, but which kept increasing as the cooling of the glowing orb went on. During this cooling process the skin or crust must have extended over the entire surface of our planet. The crust would be at first smooth, but would naturally fall in or contract with the receding of the fire within, and therefore, along with the contraction of the earth's diameter, would take uneven formations, resulting at length in the shaping of mountains and valleys.

The atmosphere surrounding the hot earth must have taken the form of dense steam; and water at so early a period in the terrestrial processes could not have existed, except in the form of steam, and not until the temperature made it possible for the steam to condense and become a fluid. When that occurred rain would fall, and with it a constant change of the configuration of the earth's crust took place.

Disintegration of the crust in the form of soil and mud would take place by the action of the falling rain, and, being carried down from the elevations, would fill up the depressions; and there, forming successive layers, built up through the slow æons the architecture of our earth, until it became a fit habitation for living forms, among which man at last appeared to unearth the wondrous antecedents of his own advent upon the scene. Thus we have the sciences of geology and palæontology. The processes of filling up depressions from the elevations, and the scooping out of channels and river beds for the descending soil and mud to flow into great hollows or basins, have continued *uninterruptedly* since the beginning. As soon as seas

and lakes were formed, together with the larger and smaller areas of soil brought down from the heights, there arose the possibilities of organic being, thus bringing about another transformation on the earth's surface.

And now the question arises, How can we account for the beginning of the first organisms, always keeping away from the region of the supernatural, and within that of the natural and material? Within this region many theories have been advanced accounting for life-origins, among which—until Haeckel's "spontaneous generation" was launched—Lord Kelvin's held the field. His theory was that meteorites, falling through space upon our planet, brought with them life-germs from other systems, and thus supplied the first organisms, from which, by evolution, all living forms now existing on our earth have been derived. This theory of Lord Kelvin's, although ingenious, is altogether insufficient. Any life-germs which could have found a lodgment on meteorites must have been consumed beyond revival in the intense heat caused by the great velocity of these bodies through the air towards our planet. A simpler and more isolated beginning of organisms on our earth than the one suggested by Lord Kelvin is required. Terrestrial resources, we have no hesitation in saying, can themselves supply the causes and evidences of the beginning of organisms. These are inherent in matter itself and consistent with its potentialities, which, when environment is suitable, can evolve organisms inheriting in a more pronounced form the same adaptability, and capable of prolonging evolutions without any limitations in duration.

We have repeatedly represented science as only yet on the threshold of making revelations which, by convincing the reason, will effectually dispel all notions that have only a preternatural faith for their authority.

We are not justified in attributing any occurrence in matter to supernatural interference until Science has employed her searchlight in vain. Is the origin of a first organism out of inorganic matter utterly inconceivable and beyond all experience? Is organisation impossible from a state of disorganisation? The theory of "spontaneous generation" has been so admirably and copiously handled by its great promoter, Ernst Haeckel, in *The History of Creation*, that we find it very difficult to add anything to it, and heartily give our adherence to that author's conception of what in all probability resembled, at least, the actual facts of organic beginnings. Haeckel reasons that, as in animal and vegetable bodies no "element occurs but what can be found outside of them in inanimate nature," therefore, he says, there are "no special organic elements or simple organic substances." His point is this, in which we are one with him: there are no chemical and physical differences whatever between organisms and inorganic matter, but differences only in the manner of their appearance, or in the manner of their chemical combinations. "This different manner of combination gives rise to certain physical peculiarities, especially in identity of substance, which at first sight seems to constitute a deep chasm between the two groups of bodies."¹ After showing that crystals and amorphous rocks are in a "state of density," which is reducible to a "liquid or melted state, and by further heat to a gaseous and elastic state," and in the same way how most "gaseous bodies by a proper decrease of temperature can first be converted into a liquid state, and further into a solid state of density," he demonstrates that the bodies of organisms differ nothing in substance from anorgana, but only in manner or appearance.

¹ *The History of Creation*, vol. i., p. 403.

The cause of the difference in manner—not in material—between these two bodies “lies essentially in the physical and chemical properties of a simple, indivisible, elementary substance—namely, carbon.” Carbon in exceeding measure is the most important of chemical elements. It is also the most interesting, for, though a simple substance, it is more important than the others in the combination of all organisms hitherto known to science. It is the quality of carbon that it can combine with the other elements in “infinitely manifold relations of number and weight.” It is the chemical basis of organic life absolutely essential to all vital phenomena—that “protean matter” or albuminous combination that Professor Huxley thought he had discovered in its initial slime or plasma state 30,000 feet under the ocean’s surface, but which he afterwards found to be a species of simple monera.

The simplest of all forms of life, and the most ancient progenitor of all terrestrial forms of life, is just a bit of albuminous matter or plasma. All organisms at a primary period of their existence—the egg or cell period—consist essentially of nothing but simple little spheres of vital matter known as plasma, and possessing a formative potentiality. Biological science can trace to its first beginnings—independent of all aid but its own—the physical and chemical phenomenon of life, or, what we prefer to point to, that which life signifies—namely, the chemical and mechanical arrangement of matter which results in individual organisms that move, perceive, and adapt themselves to their surroundings, and, by evolution along a main line of ascension, produce more pronounced and complex successors. This triumph does not cease in determining origins merely, but the triumph is all along the line of evolution and development—from the original albuminous “substratum”

or simple monera state, up through the various generations to man, and back again from man through degenerations to his ultimate.

It is now known to most inquiring minds that growth is not exclusively an organic quality. Crystals grow. In any inorganic solution of salt, if allowed slowly to evaporate, crystals will form and grow in size while evaporation continues. This growth is caused by the accession of new particles passing from the fluid to the solid state, and, by certain physical laws, fixing themselves on the crystal formed. Identically the same process in the growth of organisms takes place, the only difference being that the particles, instead of fixing on the surface, as in the case of the crystal, penetrate to the interior of the organisms. So through all the descending grades of being, from man to the crystal are seen these two mighty attributes of matter and motion, evolution and orderliness.

We have not space to go further into details on this subject, but refer the reader to Professor Ernst Haeckel, who, in *The History of Creation*, gives a most elaborate exposition of his theory of "spontaneous generation," and which is the most comprehensive and convincing statement on the subject yet made. We affirm, then, that the origin of a first organism out of inorganic matter is not inconceivable. The mud and soil from the elevations to the depressions lost nothing of their chemical elements and properties, but rather became more vital and active in their new conditions; and by combining in certain proportions, as they must have done by necessity when brought together, formed the albuminous matter or plasma, which is the "substratum" of all organisms.

Our conclusion is that, from the composition and *properties* of the chemical elements inherent in matter

itself, and known to compose organisms and inorgana alike, and differing in nothing whatever except in the arrangement of these elements and the manner of their appearances, it is highly probable, if not certain, that the potential and orderly processes of nature alone operated at the beginning of the formation of organisms. Thus the "gap existing between Kant's cosmogony and Lamarck's theory of descent" is filled up and rationally accounted for; and "man, as well as other animals, is at first nothing but a simple egg-cell, a lump of mucus, containing a kernel," both of which are pure matter vitalised by the properties of chemical compounds. If we cannot accept a supernatural and special creation theory either for the earth or its organisms, we are compelled to put the most rational construction on their advent into existence—namely, that they are, and exist in virtue of, matter and motion, which, by their own chemical processes and properties, evolved the grandeur and glory of earth, and all organic being, man included, from terrestrial matter. To refuse "spontaneous generation" is to accept miracles.

A word or two on the second question: Is "spontaneous generation" beyond all experience? Professor Ernst Haeckel, again, says: "As we are now able artificially to produce, in our laboratories, organic combinations of carbon similar to this" (the composition of the monera) "in the complexity of their constitution, there is absolutely no reason for supposing that there are not conditions in free nature also in which such combinations could take place."¹

Besides this experimental achievement of science in producing an organic combination, it has been discovered that certain "monera" originate by "spontaneous generation."²

¹ *The History of Creation*, vol. i., p. 418.

² *Ibid.*, vol. i., p. 420.

Even among the monera at present known there is a species which probably, even now, always comes into existence by spontaneous generation. This is the wonderful *Bathybius Haeckelii*, discovered and described by Huxley. This moneron is found in the greatest depths of the sea at between 12,000 and 24,000 feet, where it covers the ground, partly as ratiform threads and plaits of plasma, partly in the form of larger or smaller irregular lumps of the same material.¹

There is the highest scientific authority, then, that organic life was from no Divine conception and power, but followed the order of a material self-evolution that must have obtained in matter from all eternity. There can hardly be a doubt that, in view of the achievements of chemical science, its resources, at a nearer time than scepticism would allow or even scientists themselves venture to hope, will complete the present rudimentary experiments with carbon in its combination with other kindred chemical elements, and achieve what already it has only imperfectly produced—an actual living substance. We are almost overwhelmed with the possibilities which would grow from a discovery of such prodigious significance. And yet, should it come about—and we know of no physical disqualification to prevent it—it will do so by ordinary sequence, and reveal no higher physical attribute than has been before the eyes of man since his advent into being. And, after all, are the omnipotence and eternity of matter not a more thinkable verity, and nearer to us in every sensible way, than a mere abstraction, or a metaphysical or theological proposition? How much more assured would human life be, and how much more certainly would human destinies be conducted, if the supernatural, with all the doubt and mystery and dread involved in it, were eliminated, thus setting free all human skill and

¹ The naturalists of the Challenger Expedition are of the opinion that *Bathybius* is a gelatinous precipitate of sulphate of lime. Dr. Emil Bessels, an excellent observer, states, on the other hand, that he has studied it in the living condition (*Jena Zeitschrift*, vol. ix.).

capacity for the highest good of all in this present life, uninfluenced by any hope of another existence.

There is nothing wonderful in man having developed into an intelligent organism. When the rudiments of origin are mastered, development is easily understood. It would have been wonderful if, having achieved by evolution the ape from primary organisms, nature could not from the ape develop a still higher organism, or even cease at the higher, since the one could not be any more difficult to evolution than the other, but is only a natural sequence. It would have aroused fitter wonder if nature had stopped suddenly short just on the borderland where cerebral consciousness in the animal and so-called self-consciousness in the man coalesced than is aroused now by the fact of development culminating in the human intellect. But although man is a fact—the highest fact known—he is not released from his exclusive relationship to matter. He is utterly cast back upon matter for everything that characterises him. Moreover, he is still a subject of evolution, and moves on with moving matter. He has nothing that is derived from any other source. All the chimerical ideas about soul and spirit having been breathed into man from some ethereal and Divine Being, who has not and cannot be discovered, are worth no more than so much tinsel on a statue, or the flimsy imagery of a dream.

Even the word "God," which men have crystallised, denoting a Creator, had primarily no such signification, but was only an exclamation of astonishment on the tongues of savage and wondering men. It has no more signification than the names of the phantom deities which filled the pantheons of ancient Greece and Rome. The term is an Hebraic involuntary exclamation, and stands in the same category as our emotional ejaculation "Oh!", which literally means nothing.

Human beings fulfil their highest functions, and rise to their truest distinction as human beings, when, by intelligent apprehension, they overcome their original and barbarous superstition, and know that in matter only are their true origin and ultimate end. There are possibilities in matter which mere superstitious faith is impotent to conceive; nor can even reason predict the boundless resources still hidden in it, and that are yet to reveal their resources to science, and enrich it, as the Revelation of Truth.¹ We may be confronted with the

¹ At the last meeting of the British Association, at Southport, September 17th, 1903, the President, Mr. Charles Vernon Boys, F.R.S., said, speaking of radium, that "among the events of the past year one stands out beyond all others, not only for its intrinsic importance and revolutionary possibilities, but for the excitement raised in the public mind—namely, radium." The radium atom is self-luminous; it is perpetual motion; it seems to be unchangeable; it seems to have properties of heat in measurable quantities. It sends out three kinds of rays. Each ray consists of particles which are shot out, but possessed of different penetrative power. One of these rays may be made to emit a perfect battery of microscopic flashes of light in dancing multitudes.

Radium or its rays, it seems, can gradually evolve other bodies different from radium, and thus—so we are told—one of those new gases recently discovered has its origin.

Radium is yet an almost secret substance, and seems to behave in a manner apparently contrary to chemical laws. But it is substance—matter. By means of radium we may, therefore, be on the borders of startling discoveries which will yet more effectually dispose of all super-material phantoms. The most subtle and potential radium elements reside in matter—are matter. It may be discovered—we think that it will, and without much lapse of time—that the sun is chiefly composed of radium, the physical source of solar light and heat. This would account for all solar matter, and, therefore, for universal matter, organic and inorganic, having the property of emitting light and heat. Radium is not the only specific substance that gives out light, although it is the only one yet known that shows such marvellous and complex properties. There are the X rays that emanate from the human body. Dr. Charpentier has been able to determine with fine exactitude the field of the action of the movements of the heart, and to follow in all their circuitous ways the nerves of the skin, by putting upon the chest of a man a piece of phosphorescent sulphide of chalk. It is thought that the X rays explain

question, "Does not mind in man denote the existence of a higher mind as the source and inspiration of ours?" We have already dealt with the terms "cause" and "effect," and need not again discuss them; and, were we to advance no other definition of these in their bearing on this question than that which we have already given, we think we have fully answered it. Argument may shake belief, but it will not convince prejudice. Only by an intelligent understanding of origins, without bias or prejudice, can we put ourselves in the right attitude on this question. Fancy and faith must confine themselves to the region of poetry when reason is in search of the real and true. The idea of mind accounted for by theology must be abandoned, and an honest study made of the mechanism of matter, in its evolution of organisms, in palæontology and biology, in order to know man and mind.

Man is a natural sequence. He is man because he is in possession of mental and physical faculties of a higher

the phenomena of telepathy. There is no doubt about the X rays being electrical; therefore, if they can find polarity in another individual, mutual correspondence can be immediately effected. That the X rays are psychic in their action, as well as a sequence of material motion, is now beyond question. There can also be no doubt that science will soon find out, and settle once for all, the electrical unity and interchange of all forms of matter, organic and inorganic, and trace all mental phenomena to the interaction of this universal energy. We have a theory that radium is crystallised heat and light force, caused by the superincumbent pressure of the earth's crust on its inner fire—the fossil, if we may be allowed the term, of heat and light. In some degree the earth's internal fire finds relief by volcanoes and other media. But it is far from being incredible that these are insufficient; and what does not escape through external media—i.e., the rarer residue or essentials of light and heat—is converted by intense chemical action, combined with tremendous pressure, into the exquisite substance we know as radium. Since heat and light contain all known chemical and physical elements, it is not incredible that a crystallisation of light and heat, in a very rarefied form, might result in the formation of the radium substance.

order of development than those of the lower animals, which he has outstripped in the struggle for survival. He is first, therefore, as an advanced product of evolution. He would not be human were he merely this, but he possesses, also, immeasurable possibility. He may be said to be himself the universe condensed into a coherent, federal unit, since all the constituents and functions of matter converge in him in their highest known activity. I Man's powers are not exclusive gifts; they are not unique in nature, but merely a concrete convergence or condensation of the material and chemical forces of the universe; and his organism is the most complex mechanism effected by evolution and adaptation. Everything man *has* as an organism, matter *is* from eternity. Evolution and adaptation in forcing on development eventuated in man. Descartes enunciated the conception "that the physical universe, whether living or not-living, is a mechanism, and that as such it is explicable on physical principles." Notwithstanding the elaborate disguise which fear of the powers that be led Descartes to throw over his real opinions, it is impossible to read the *Principes de la Philosophie* without arriving at the conviction that this great philosopher held that the physical world, and all things in it, whether living or not-living, originated by a process of evolution due to the continuous operations of purely physical causes, out of a primitive and, relatively, formless matter. It is possible to conceive that, instead of the human organism, some other might have been the sequence of evolutionary action; and so there would have been had there survived during the struggle for survival a stronger and fitter type than the human. The fittest took precedence. As we have already said, it is almost certain that some of the celestial suns or systems may be inhabited by a different and higher organic type of beings than sublunar men.

A preponderance of certain chemicals over others, or a slightly different combination of matter from that which determines the conditions of life on our planet, would have effected such a variation. In such beings the intellectual functions would act under different physical influences, and their minds, therefore, constructed under different experiences, would perceive, think, and judge according to laws of logic and reason which would be different from ours. It is impossible to conceive man as the highest or final issue of evolution, since he is only a *serial* sequence of that law. He is still a progressive being, and subject to organic and chemical changes.

The Old Testament says of man: "He was made in the image of God." Bearing in mind what that term literally implies, what does "the image of God" really denote? If it is a physical image that is understood, our knowledge of the origin and history of man as an organism is quite irreconcilable, and infinitely so, since man is possessed of no absolute shape, but in descent has been, and will continue to be, subject to changes of form and structure effected by environment and adaptation. Any portrayal of God, physical or other, indicates that man made God after his own image rather than that he himself was created after a Divine pattern. Hence the origin of the phrase, "made in the image of God," since the idea of an image was derived from man himself. If it is a spiritual image that is signified, or in any sense a supernatural one, then, again, the history of man's descent is a physical refutation of the statement, "made in the image of God." Moreover, since a definition of the spiritual or supernatural is beyond human capacity, how could the image of a Spiritual Being be delineated by transference to a material being? As we have said, man's early and inevitable superstition led him into labyrinths of gross darkness, where inter-

minable enigmas ever confronted him, and compelled some kind of solution, and the simpler the more accessible, although the result was to lead him into the ever-deepening unknown. Science has shown where and how he has been lost; whence he came and whither he goeth. In the human organism we see the material forces of nature convergent, as it were—*i.e.*, they have reached the highest consummation in the human senses. Man's recognition of himself is a recognition and demonstration of his descent from protean matter, or primary plasma, which is a chemical product. Now, he is an intelligent auxiliary with the universal forces. By the convergence of the cosmic forces through millions of years, and focussed in the evolution of man—as proved by comparative anatomy and chemistry—man himself has given a prodigious momentum to the continuity of the mechanical laws of the universe, of which he is the direct sequence and highest known exponent.

The destiny of matter is to move eternally onward, diverted by relapses to new developments, and so on to eternal issues. Returning to the question, May not mind in man denote as its cause a higher and universal mind? we repeat, just as all organic function is a developed necessity and sequence, so mind itself is a sequence; an object implies a percipient subject, and the percipient is the synthesis man. Subject and object are related forms of the one unit—the poles between which existence is realised through cerebral motion—which motion is the reaction, response, and proof of the unity and identity of all matter and all forms of matter. What is called the moral and the religious action of the mind—too ingeniously differentiated—are exactly identical as mental actions. If there is any distinction between them, the religious action *may be said* to be an abnormal development of the

moral or rational into the superstitious or irrational. Moral action, therefore, is the higher, since it signifies natural rights and social obligations. Evolution is the fountain-head of morality. All our impulses are traceable to two elementary instincts—viz., the instinct of self-preservation and the reproductive instinct. Mind, therefore, does not imply a higher mind as its cause. On the contrary, all growth proceeds from the lower to the higher; not from sources, but from cyclic issues; not by denuding itself of power, but by confirming and expanding it. Development is intrinsic to matter, and is, therefore, as impossible as motion itself is without the mechanism of matter.

The religious idea of origins has no intelligible significance, inasmuch as it excludes any system of evolution reconcileable with reason. We have already proved that the theory of a spirit or spirits is untenable, since a spirit is *less* than substance and proceeds from substance; and since, also, as a so-called first cause, it is incompatible with eternal matter.

Mental motion or thought may with perfect accuracy be called cerebral electricity—the product of chemical action upon a combination of living tissues conveyed by sense-excitation to, and stored in, the cerebral cells. Mind, then, is not an imponderable, super-physical agent, independent of matter, or imported into the mucous brain-substance as the instrument or essence of a Supernatural Being, and endowed with immortality. Issues are eternal without the supposition or interposition of a Supernatural Being. Spirit could not add to existence more, or other, than exists as matter, since matter is eternal and fills infinite space. The notion of Mind as an immaterial essence injected into the human organism, conveying to it intelligence and immortality, is incongruous with the origin and evolution of organisms,

as science proves. Mind without matter is as impossible as matter without motion. Physically and logically, mind, or soul, or spirit, is a sequence of chemically-conditioned matter. Detached from matter, were that possible, it would be unfit for any service or end. It is really indebted to the healthy normal action of cerebral matter even for its appellation. To suppose, therefore, the immortality of an individual mind is to suppose the immortality of an individual brain, which, of course, is physically ridiculous. Everybody knows that mechanical cerebral action is arrested, and entirely ceases, when the brain at death gives way to the law of degeneration and becomes corrupt, and the normal life-manifestations of the organism cease. With the suspension of nerve-sensation all consciousness is extinguished; the individual and the individual's identity vanish—the individual who existed exists no more. The mechanism of thought or soul cannot be incorporated in another
x organism, ethereal or spiritual. No chemistry known to science can spiritualise matter. The mechanism of mind is an integral part of the world-matter, and must remain in it for eternal ends. By chemical processes all organisms are dissolved that matter may be
x supplied for new organisms. This process is perpetual and cyclic; hence the sequence, evolution, whose action is incalculably slow, but inflexibly sure. We cannot without much and continuous labour even approximately understand our real position in a material world; but such an understanding is of infinite worth to us as a mental gain, since it is an eternal fact. It took æons innumerable to produce man. He must very slowly, therefore, and through recurring perplexity,
x realise his relation to, and his identity with, the infinite unit of matter. The destiny of matter is his destiny.
x *He issues from it, and he must return to it. His*

suspension from participating in conscious action for more than a few short years and his dissolution are necessities, as much as are the forces of order and reproduction in which the substance of his organism must for ever perform a part. Man with his mind has been evolved, but evolution is neither exhausted nor enfeebled. It is a motion in eternity, and will continue in eternity.

Thus man contributes to evolution a force equal to the momentum of the immense period of time it took to evolve him. He is a medium of sequences which must ever be but the unending order of a cyclic succession of grander achievements and mightier sequences. Nor is matter in its rude inorganic mass standing still. It is the constructive stock of eternity. Its progress is measured by its ever-changing form and its infinite fertility of resource. Only when the chemistry of matter belonging to this planet of ours can no longer contribute to evolution; only when its energy is exhausted, and no higher organism than its latest type or species is longer possible, will the human, or whatever descriptive term the last and highest product of evolution is distinguished by, evidence to the speedy disintegration of our globe; progress then will cease; organisms will not produce; all life forms will shrink and vanish, for the dissolution of our planet will have begun.

Although that stupendous drama is almost infinitely remote, it is absolutely certain to come. It will come in the order of existence, and will not be more startling, and certainly will not be less natural, than any other natural phenomenon which passes from growth to maturity, and from maturity to decay. But in disintegration the substance of the old globe will begin a new career. Its wreckage will not be useless matter cast upon the shores of the sun or other planets, or float as

solitary refuse in the eternal depths of space. As nebulous matter or nuclei for the building up of new worlds, or as fuel swallowed by celestial suns to feed their eternal fires, the substance of our globe will be rejuvenated for eternal ends. In this or some such way our own globe itself will surrender its identity, and by absorption take part in a new career. Thus, identified with a mightier system and in new conditions in space, with its changed physical relations with other systems, and its entirely transformed chemical arrangement, this old globe may take part in cosmic conditions among the eternities with a record infinitely more brilliant than its own has ever been as a solar planet. Physical and psychical possibilities—when that cycle has fully matured—will have developed an efficiency at present inconceivable to us. It will have advanced by orderly sequence to a stage of experimental science as superior to the knowledge of to-day as the knowledge of to-day is to the knowledge at the dawn of human intelligence. It is by no means impossible to conceive how in that far remote but coming time knowledge, in splendid activity and resourcefulness, will be in possession of an almost boundless fertility of means to ends. The dark chasms that separate ignorance from knowledge will be bridged. It may be so even at this moment in one or more of the countless systems in space. No longer credulous or incredulous about the impossible, those who will be living then, or are living now, in those future or present existing worlds, will not rest in their triumphs. They will go on making further and greater discoveries. There, imagination will only serve the purpose of mental recreation. There, the chemistry of matter will disclose subtler properties and activities, and bear mightier issues than human dreams can elaborate. Laws of matter that to us even yet are *somewhat* of a mystery will there lay bare their treasures

at the feet of Science, the resources of which will be inconceivably vaster than is yet comprehended by the human mind; eternal matter and motion will be understood, and eternity solved. There, muscular toil will have ceased as a forgotten instrument and means of existence. Society will be an organism of quite a different order from that of this sublunar planet. Inequalities even there must exist, and for like ends as they exist here; but the brain development of those wondrous people will be prodigious—they will use their resources to overcome material or physical conditions without the need of muscle or sinew. In short, intellect, which is the supreme product of matter, will have become matter's only interpreter and executor.

Religion, as we know it, will not in any way retard the triumphal march of science, or forbid the handling and seeing the "hidden things" of the universe, which, on the earth, are forbidden of God and anathematised by man.

This is not a purely fanciful sketch of the issue of evolution in physical and organic existence. The future cannot be inferior, but must be superior, to the past. Every succeeding stage of being must necessarily be an advance on a former. This order can be absolutely accepted in the general, although not invariably in the particular. Endless generations of systems come into existence, mature, and break up and reappear unchanged in substance, though new in form, with never a break or a pause in the eternal cyclic sequence of matter in motion. The question may be fitly asked here: Identified as men are with matter in its substance, history, and destiny, what ought men to do and be? This is the supreme question that men should give heed to in a world the inhabitants of which realise the need of happiness. Before we attempt to handle this question some relative considerations must be disposed of. The

special creation theory is untenable; and equally so
* is the notion that man is a spiritual being. Both are
unscientific. If man were specially created with the
spiritual predominating in him, he would be an alien
in a world of matter in which it is the order to
* struggle for existence. Now, we know that man is not
an alien in a world of matter, but is in his right place
therein. The material world—*i.e.*, its integrate organic
and inorganic phenomena—have a common origin,
* history, joint sequence, and inalienable interests and
issues. Our world is indissolubly related to, and bound
up with, the entire planetary and stellar system, the
infinite parts of which, acting and interacting as an
aggregate whole, constitute the universe. Anything
that is a sequence of matter, therefore, cannot be alien
to it. It is because man himself, being identified with
matter, is the inalienable property of, and a working
unit with, the universe that he is even possible as a
living being. It is thus that he feels himself a conscious
integral part of an infinite system, bound up with its
history and involved in its destiny.

Were man a spiritual being lodged for a time in a
material organism—*i.e.*, an ephemeral being materially,
but an immortal being spiritually in some occult way,
known only to a Supernatural Power—how could he have
issued from, and be constituted of, an unknown something
to which matter is the highest conceivable antithesis? It
was by material as distinguished from spiritual forces
that man ascended from the primary protista to his present
human altitude in nature. We have already referred to
the human egg or cell, and shown that it consists of
nothing but matter in certain chemical combinations,
and that no occult influences whatever come into con-
tact with these combinations, but, on the contrary, the
development of the egg is purely mechanical and sequen-

tial. Notwithstanding the negative theories of Berkeley and Hume, we know that matter is and ever was. We know its specific elements and properties. Of spirit absolutely nothing is known. No person ever saw a spirit, touched it, heard it, or smelled it, notwithstanding sickly fable, pseudo-miracle, and the comedy of modern *Séance*. Spirit is a non-entity to human knowledge, a scarecrow of the over-credulous. But, further, if spirit be a reality, as matter undoubtedly is, and, therefore, if both be co-equal or complementary, as theology would have them, although differing in substance or texture, and, moreover, if neither had a beginning, it is obvious that they must have been contemporaneous entities, identified with, and cognisant of, one another in eternity; and as they once were, so they must necessarily remain. It need scarcely be said that such a definition of spirit and matter as co-equal, co-existing contemporaries is inadmissible. And yet this definition cannot be quite absurd if man, as con-joint matter and spirit, is destined to individual immortality.

But, again, why is it that spirit is affirmed to be the exclusive gift of man as distinguished from his primary ancestors? Since all matter is eternal and identical, whether organic or inorganic—i.e., whether more extensively alive in one form than another—no one section or form of it can be exclusively dominated by spirit, except on the hypothesis that matter undergoes in the human egg or cell a complete constitutional or chemical reconstruction.

This would imply that matter is not matter, that it is inconsistent with itself or liable to freak, or that there may take place at any time a supernormal transmutation of the normal and concrete into the imponderable and abstract, and also the gradual disappearance of matter, together with its motions and functions of existence. Now, neither chemistry nor anatomy can discover any symptom of the

transmutation of matter into non-matter, or any symptom of any analogous change of its constituents in the development of the human egg or cell from its earliest stage to its final evolution in the human form, nor any trend whatever from the inflexible line of material and mechanical evolution. But even were it so that the human cell could actually undergo a supernatural transformation in the course of its development, and thus change the fixed order of the universe, the universe itself would be imperilled, since adaptation to environment would be rendered precarious, the normal conditions of cosmic stability being vitiated. Moreover, if both spirit and matter had a beginning, both beginnings must have been simultaneous as well as identical in origin, if the one is the essential complement of the other. On that supposition neither the one nor the other can claim priority or superiority, and the more especially that they are, in this world at least, said to be indissolubly linked together.

Now, if we are thrown back for support of the theory that man is spirit as well as, or more than, matter, on the hypothesis that these came from two distinct eternal sources, or from one source necessarily possessed of two specific elementary constituents each in antithetic contrast to the other, on either hypothesis we are met by absurdities which are totally unworthy of notice. Considering the mythical notion of spirit from the most rational aspect, and perhaps the aspect which approximates nearest to the intrinsic Christian conception of it, we cannot classify spirit as differentiated from matter. The difference between them is altogether imaginary. If matter and spirit have a mutual source in a Creator—in God, and are associated, as theology affirms, to form the *complete* man, they must be *intrinsically* identical, or, at least, should be consistent *with each other*. The only difference would seem to

be a chemical one, such as we have earlier described, and constitutionally therefore, subject to the operations of change and dissolution. Thus, the phenomena of the one are the associated phenomena of the other.

But if matter and spirit are *aliens*—not counterparts, as many Christians affirm—it is impossible that they could both have their source (intelligible to human reason) in an absolutely consistent Creator. It seems clear that one or other of these elements must be a myth, otherwise we are compelled to suppose two beginnings or sources—one for each, which we have shown to be impossible.

If it is assumed that two such radically incompatible elements—matter and spirit—issued from a consistent, infallible source, how is it, then, that matter and spirit are not twin—*i.e.*, of the same consistency and likeness—as they must needs be, if their common source is an infinitely infallible and irreducible Deity?

It seems to us that any attempt to define spirit and matter as two distinct entities is irrational, and must end in disappointment. Those who believe in spirit, and in an ultimate spiritual existence, in order to be logical, and present good reason for their proselytising zeal, ought to furnish sound evidence of spirit—what it is, its claims to be incorporated in men, and why it should dominate their personality at the expense of their material senses and organisms. This would be a rational method of erecting a system of belief worthy of human intelligence. Or they might adopt a less reasonable method, and postulate for spirit and matter, not one source, but two sources. Or, if they will insist that spirit and matter proceed from a consistent Creator, let them be logical, and represent that Creator as *dual*—the one part of Him matter, and the other part of Him spirit.

Any of these methods would, at least, have the merit of consistency. Of course, the eternity of matter would

have to be admitted equally with the eternity of spirit—an admission which, we fear, those who believe in spirit would not grant.

There would be more danger to their theory of a self-existent creative Spirit by such an admission than in their refusal. Of two evils they would, therefore, choose the lesser. And when it is considered from what or whence the word "spirit" is derived, what it really means, an admission of a dual Creator would have even less foundation than that which the present theologic rendering of spirit assumes.

Whichever way we turn we are met by matter only—consistent, inflexible, eternal. There is no evidence perceivable or demonstrable to reason or science of a Spirit Being, or any association with the material of a spiritual or super-material element.

The operation of brain matter during sleep—dreams, visions, somnambulism, talking, etc.—have no more significance as spiritual phenomena than the action of the heart, the pulsing of the blood, the action of breathing, or the involuntary movements of the nerves. Sub-conscious action is nothing more than the effort of nature to restore the normal equilibrium of nerve, heart, and brain. *Nemo in se tentat descendere*. A man must descend into himself to know the meaning of (himself) matter; his true base is the physical and material.

The history of the spirit myth is the best commentary on its mythological origin. It had its rise in the empty infant mind of man, when it was hyper-sensitive to ever-changing and unaccountable natural phenomena. Such a condition of mind could understand nothing: it imagined everything; it had to make its own solution and erect its own superstition.

Fearful, ignorant, fanciful, it only wondered, and *found shelter* in supposition. The term "spirit"

originally meant the invisible—the wind, breath, soul, a supposed something more refined than substance. For this reason, superstition or theology found the term useful, and transposed its application to a Divine Being—"God is a Spirit." It is the equivalent of the term "God," which we have already defined as meaning merely an exclamation—literally nothing more than a child's "Oh!" It had its source in emotion, or in the vibration of the nerves coming into contact with unknown or unfamiliar phenomena. All such definitions, then, have only the significance of phenomena, attributable to physical operations. Phenomena may have sequence through one or many forms or modes, but they are all ephemeral, and merely signify the measure or resource of their antecedents, the importance or rank of which may be determined by their kind or extent. Thus, phenomena are merely evidence. Behind all there is the reality—eternal substance. Phenomena represent the ever-changing operations of matter. Spirit might be applied to all forms and conditions of matter as signifying *quality* of composition and motion. In this application of the term (if it will be used) there is reason, since a useful end is attained.

There is but the one conclusion which our reason can come to—the universe is matter. There cannot be two universes, two eternal entities.

To get at the meaning and value of terms, we must know not merely in what sense they are employed *now*, since, like everything else, they change, but how they came into use, and how they were employed when framed. In this way only can we discover their real meaning, or estimate the significance of the theologic term "spirit." Theology or religion had no right to usurp and twist terms for supernatural uses. The word "spirit," as well as the word "religion," are being restored to their

right place in philology. The word "supernatural," also, is rightly coming to signify the natural or scientific.

The supernatural cannot in any conceivable way account for the universe, or the fact of organic existence. The law of descent, as operating along definite material lines, can alone supply us with anything like a rational solution.

The mythological fiction of a special creation is a mirage, which is disappearing before the searchlight of science.

We would come to the light. We come to the incontrovertible truth when we perceive the eternity and the composition and functions of the material universe; and in that ever open, ever constant vision of fact, into which every human eye may gaze, we ask the question: What is the "Spirit of God"?

In dealing with this question, as in dealing with every other, it is essential that we know our bearings. We must also put away all prejudice and emotion, and allow reason its right to discern. The term "Spirit of God" has been coined for a purpose, and being, therefore, a human symbol, it may properly and justly be discussed.

* Neither reason nor knowledge, but emotion only, is responsible for this term. Any discussion as to the intrinsic meaning of "Spirit of God," while quite
* permissible, must be unsatisfactory, since reason can deal only with things known or knowable. A discussion of the term, however, may help us to put the right value on mere mythological expressions,
* and show how little real need there was originally for coining these expressions, since they were employed under a sense of fear which had its source in gross ignorance. Except for the desire to know, which is a normal evidence of development, the adoption of the term "Spirit of God" by theology has been baneful as a belief.

The word "Spirit" has always been a centre of controversy, and no wonder, since it is an equivalent term for non-existence. The insistence in a belief in Spirit as an article of faith has been the means of splitting society into hostile sects, each one jealous and insistent of its own definition of it, which culminated too often in violent and world-wide hostilities.

It was not long after the death of Christ when, within the Church which His immediate followers instituted, there arose discussions concerning the definition of the word "Spirit." The Council of Nice was prudent in its time when it wisely left the discussion of the word alone. Since then every Christian sect has had a local meaning of its own for it, and has been distinguished from others on that account by some title which indicated its attitude of interpretation and belief.

Some regard the Spirit as belonging to the Son, some to the Father God, some to both Father and Son, and some as distinct from either, while some do not know under what definition to class it.

The semi-Arian Macedonian bishop of Constantinople is said to have reasoned in some such way as the following: "The Holy Spirit is either begotten or not begotten. If the latter, we have two uncreated beings—the Father and the Spirit; if begotten, he must be begotten either of the Father or of the Son; if of the Father, it follows that there are two Sons in the Trinity, and hence brothers; but if of the Son, we have a grandson of God." It is with no irreverence that we put our discussion on the word "Spirit" alongside of this casuistic definition by the ancient bishop, but to show how very ridiculous is the position which rational and enlightened men will deliberately put themselves into by promulgating a belief so extraordinary.

The late Professor Bruce, in his Gifford Lectures on

"Moral Order," frequently but unintentionally showed how his mind oscillated between a scientific and a theologic concept of matter. Up to the end of his life theology persisted in stifling the budding scientist in him. Said he:—

The wise in all ages have believed in a moral order as real and certain as the planetary system. If they are not all mistaken, there is such an order as a matter of fact, whatever theological phrase we employ to describe it. Call it a moral government of God, or a tendency in the universe; it is all one—there it is.

Here we have a glimpse into the late Professor's mind as to how he defined the subject which he would explain. He was obliged to conclude that "it is all one" *how* we describe a force in nature.

Nor was the Professor satisfied with his own definition. He was possessed of too scientific an acumen to be content with such a summing-up—a definition which implied a negative. If Spirit, then, signifies expression, denoting something, itself not that something, or if it means an abstraction of matter, and therefore less than matter, since an abstraction is really only a thought derived from impressions made on the mind through the senses, what can the "Spirit of God" signify?

The inference seems clear. If the term "Spirit of God" has any intelligible significance, it denotes an antecedent something out of which it had issue as spirit. The term really signifies an expression, an abstraction, a mere mind-impression.

As the term "God" originally meant nothing except that which an exclamation of astonishment might denote, arising from a total ignorance of material phenomena, some other term or word having a substantial root-meaning and representing actuality must be understood, and that word obviously is "Matter." The term "*Spirit of Matter*" is intelligible, and means, as we have tried

to show, a quality or expression of matter. At this point the present chapter should have for us a very personal interest. It suggests the question: If theology were to cease as a system of belief, and with it all that it symbolises in the Christian religion, what could be put in its place? The question itself, we venture to think, by implication contains the answer. It ought not to be the first question with us—what we could put in the place of an erroneous belief. Our first obligation is to get rid of it as a danger to human intelligence. It should not be a question of substitution, but of restitution, since it is one of truth involving the eternal happiness of mankind. If there were given to us food unfit for our use, and we knew it not, would it be wise and humane of those aware of our danger to provide a substitute before banishing the obnoxious viands?

★ Would you not, without a moment's hesitation, say, "Away with the bad food"? Is the Christian belief a true one? Is it fit for the intelligence and need of the twentieth century? Can its present rank be justified
★ either by its own intrinsic evidence as set forth in Scripture, or by its experimental history, or by recent discoveries, or the revelations of present-day science? If not, and surely there is good evidence that it cannot, ought it to be permitted to prolong its claim to supernatural authority? Professor Goldwin Smith once said:—

If it was from the Holy Spirit that these narratives [various fabrications, legends, myths] emanated, how can the Holy Spirit have failed to let mankind know that in reality they were allegories? How could it allow them to be received as literal truths; to mislead the world for ages; to bar the advance of science; and, when science at last prevailed, to discredit revelation by the exposure? Besides, to maintain the symbolical truths of Genesis is almost as hard as to maintain its literal truth.

The mass of evidence against the Christian religion, and all religions, as an educational discipline of the

mind, as a Divine revelation of conduct here, and of a life hereafter, and as detrimental to the best possibilities of the human mind, is so abundant and valid that only crass superstition and prejudice can continue to disregard it. The result of the contest, we think, cannot be doubted; and, that being so, the issue is a momentous one—more than what is involved in mere substitution. The removal of an error, while it may make room for another, can accomplish what the conservation of an error never can: it can clear and prepare the mind for the reception of truth.

This is the office of knowledge, for by its intrinsic trueness it will strengthen the mind which attains it in a way that mere pseudo-knowledge is impotent to effect. Nor is the fact that a wrong belief may be a source of pleasurable emotion a good reason for allowing it to remain. Thousands of Christians, unfortunately, live in a perpetual ebb and flow of ecstasy derived from an infinite faith in their view of religion, totally heedless of its verity or fallacy. They live in an atmosphere of their own, or of their particular sect, and they will not suffer an analysis of the injurious air they breathe. Their happiness would vanish were they put under a course of mental sanitation. They prefer to indulge the spurious exaltation of their emotions rather than cultivate right and natural relations of the mind and reason.

Is it not more sane to choose knowledge, or, at least, some measure of certainty of the conditions we live in, even were our choice followed by a temporary loss of pleasure, or even loss of fortune, than to continue living in a structure made perilous by dry rot? Better an honest crust earned by merit than a sumptuous feast obtained on false pretences. Consider the number of cases of insanity which occur within each year traceable to religion. Extreme emotion resulting from the nature

of the hopes, and fears, and terrors presented to the imagination by religion—not to dwell on the perils attending fanaticism and propagandism engendered by it, has destroyed the balance of numberless thousands of minds. Religious emotion is responsible for wrecked lives, mania, and self-destruction to a far greater extent than the sanest of Christians would credit. Would it not be a gain to the many, as well as to the few, who are more or less influenced by emotion, were the human mind made an instrument of reason by which it could discern the real and safe from the fictitious and perilous, rather than that it should be made a plaything of by faith to its unhinging or premature decay. Would not such a gain be a worthy substitute for the loss of a system of faith that has a sixteen-century record against it of failure, blindness, and persecution? It may be asked, Are the human emotions, then, to be entirely neglected or suspended as functions of consciousness, even though they are all that religion primarily appeals to? Are hope, love, religious ecstasy, and the many forms of emotion which spring from these, to be abandoned for a system of knowledge that appeals only to reason, and forbids the delights of imagination? What are men and women without emotion and imagination, and what can minister to these so effectually as religion and a religious worship, with all its sermons and intoxicating accessories? If reason be drugged, so that the emotions thrill like the strings of an instrument touched by an unseen finger, and faith be excited by a voluptuous ritual, what harm is done to reason or religion? Would not existence become as monotonous as a flat landscape, or a perpetual sky of blue, if churches and all that they stand for were supplemented by colleges of science? We answer, No sane person would wish to seal up the fountains of human emotion. We will never be denied

- * their precious ministry, so long as men and women have hearts and passions to satisfy. What is pleaded for is not the irrational indulgence, but the rational use, of the emotions. Regulation, not suppression, should be the aim of any right system of belief. Whatever of love,
- * hope, ecstasy, pulses in the hearts of men and women, does so because they have their occasion and participation in the great universe of which men and women are parts. Except in the natural order, by the real and
- * true and sane, all excitations of the emotions and passions are intoxicants of the most dangerous kind; and among the most dangerous to liberty, reason, truth, and justice, we would rank the intoxication or excitation distilled from religious superstition.

Normal reason resists the Buddha's conception that life is an evil in itself, and the punishment of evil, since it must seek happiness through sorrow and sacrifice as the price of living.

We hold that the mere act of living is itself happiness, not merely that happiness is attained when conduct reaches a conventional standard, whether social or religious. Our functions in normal action should yield only pleasure, for the reason that such action is the natural result of their balanced activities.

If human happiness depended solely on conformity to orthodox standards, there would presumably be no transgression, since all men and women desire happiness. But since so many, if not the majority, are nonconformist in the wider sense of the term, happiness must be found in their nonconformity; for it cannot be conceived that the largest number of human beings would deliberately elect to pursue a course which they knew would bring them unhappiness. We may accept it as true, therefore, that happiness, not to mention prosperity, is not exclusively found when

merely conforming, but it is found also when nonconforming.

In affirming so much we only affirm what is true to nature, as demonstrated in the law of attraction and repulsion, and confirmed by empirical experience. This aspect brings us into another region of our discussion under this chapter—the region of good and evil, so-called by theology.

Dissimilarity may exist without disparity. The complex nature of man implies corresponding natural phenomena as cyclic sequences in the physical world. These phenomena manifest potentialities in eternal retrogressive and progressive motion. Progress is possible only through resisting and overcoming, so that existence can be continued in no other way than that of struggle, nor prolonged longer than struggle is efficient to that end. This has been clearly and permanently enunciated by Darwin.

Dissimilarities, then, exist in man, and are common to all forms and conditions of being. They constitute the pleasure of variety, ensure progress and perpetuity, furnish to the scientist the solution of physical and psychical phenomena.

In dissimilarities the invaluable method of comparison is presented by which alone an accurate synthesis can be obtained. Comparison involves two poles between which the truth resides, and it is by the comparative method that a scientific knowledge of the synthesis lying between the two poles opposed in action in microcosmic man can be reached. Ignorance of the laws of being stupefied by religion and theologic dogma arbitrarily classified these two normal and universal poles—namely, action and reaction—as good and evil, without one tittle of authority for so doing. The promulgators of the dogma of good and evil saw a force at work between these two

poles of man's being acting and reacting on each other in apparent mal-activity, and, in order to square with their ignorance of its true function in the economy of nature, they called one form of these cosmic forces good and the other form evil.

They did not know that the action of the resisting force, which they called evil, is as essential to the universe and to man as the progressive or attractive force, which they called good. As well say, and with as much truth, that the earth is in mal-activity against the sun, since it resists its attraction. The chaos consequent in the solar system, and far beyond it, if it were possible for it to resist the sun's attraction, could only be equalled by the chaos to human existence were man, somehow, deprived of the pole of resistance, or evil, as complementary to the pole of attraction, or good. Or were the force of resistance overbalanced by the force of attraction, no less general disaster would ensue.

What is good—what is evil, if not just the difference between the natural law of growth and decay which constitutes and accounts for the interest in, and the possibilities of, human existence, and which is the measure of all the advance achieved between the extremes of these two poles? These poles always maintain their relative bearing, while constantly changing their ethical sphere of action.

There is goodness in all things seemingly evil, just as
× there is evil in all things seemingly good. The difference itself, and the quality of the difference between these two poles of human conduct, are absolute needs of cosmos, and have no relation whatever to the absolutely erroneous dogma of theology—namely, malignity and
× benignity. Good and evil so-called, work on the same intrinsic or cosmic lines of necessity, although from *opposite ends* of the same law, and meet together in

completion and balance. They are twin and indissoluble, for the same reason that positive and negative electricity are. Relative as day and night, as sour and sweet—the one is the complement and completion of the other. Is it conceivable that there could be the boundless internecine conflict between them which religion affirms, seeing they are functions of an infinite unity through eternity? Progress means advance from a comparative less to a comparative greater; or, in orthodox terms, from a bad to a good, or from a wrong to a right. Progress, therefore, from the one to the other is just the difference and distinction between good and evil so-called. These two terms represent in reality one constructive force or law under two operating aspects. Were these two terms—viz., good and evil—accurate as descriptive of spiritual or religious realities, they would imply—first, two eternal conditions of existence, each irreconcilable with the other, because they would be absolutely hostile in intent, and, therefore, impossible of co-operation; and, second, being eternally irreconcilable, goodness or good, as an attainable and ultimate excellence, would be absolutely impossible, inasmuch as, being eternally antagonistic, there could be no finality to their mutual opposition and strife—a sequence wholly unbiblical.

Thus, any theory of spiritual perfection of being is as unattainable as the arrestment or cessation of universal law is impossible. As both are impossible, our conclusion is—there is inviolable unity and continuity in the universal system. The universe has no ill-wisher; it has no evil-doer as an abnormal antagonist. We have seen that there cannot be two universes. Whatever is, is, and can be only as a ministering part of the universal whole. We have also seen that there can be no *hostility* in the universe, that its eternal changes are merely the cyclic sequences of growth and decay processes, or the

chemical operations which have their unfailing sequences in recurring phenomena, and always working towards an advanced condition or type, with a like inverse reaction. The universe implies unity. There cannot be two positives—one asserting itself as malevolent, the other as benevolent.

An advanced—or, if we may use the term, a relatively good—condition of being contrasted with that which is left behind, which, for argument, may be called bad, either in respect to the individual or to the many, indicates that the living conditions have so improved as to warrant the use of the terms “advanced” or “relatively good.” The improvement could only be physical or ethical, and the exact and inevitable issue of natural operations. Nothing can arrest cyclic sequence. There is no element whatever of the miraculous in universal processes—neither malevolent nor benevolent. If the condition from which the advancement is made were defined, it could be so only as inferior relatively to the improvement or advancement made, and, therefore, not from an evil to a good in the religious sense, but from a physically or ethically low condition to a higher. The real distinction, then, between good and evil is not a theologic or religious one, but merely a mechanical and natural one. It is one of relative distance—the distance of progress from the starting-point—which, obviously, it must be, if advancement is to follow. Thus, evil, so-called, is the intimate or fellow or twin of good. Both act and react upon each other, and the issue is progress, although it may not always be perceptible as such.

Where have all the good or favourable conditions of this twentieth century come from if not from conditions relatively distant or inferior, and, therefore, comparatively evil? Originally, the terms “good” and “evil” denoted nothing more occult than actions useful or *harmful* to the individual or to society—actions which

brought with them pleasure or profit, vexation or loss. Primary conditions are the lowest, or the undeveloped. Relatively, they may be called bad, but not evil, and possessing potentialities of infinite onwardness or betterness.

That death is not the penalty of sin is proved by the indisputable evidence of the fossil-yielding rocks; but wrong-doing is still held to be an infraction of the divine law, and to involve pains and penalties in a future state. As opposed to this, wrong-doing is held, under the doctrine of evolution, to be an infraction of human law.¹

"The actions," says Huxley, in his *Collected Essays*, "we call sinful are as much the consequence of the order of nature as those we call virtuous. They are all part and parcel of the struggle for existence through which all living things have passed, and they become sins because man alone seeks a higher life in voluntary association." The terms "good" and "evil" have no meaning until a social or communal life begins. A solitary man living on an island otherwise uninhabited can do no wrong; but when one or more join him, the question of the conduct of one to the other at once arises; social conditions come into existence, and conduct becomes ethical.

Good and evil are natural, not supernatural. They are the two opposite positions of the cyclic universe in motion. What is called the "down-grade" is a theologic myth. Downwards is an unknown process in the cosmic methods of matter—they are only cyclic. The religious or clerical definition of good and evil is a mere caricature of a cosmic function—they are one in the cyclic reaction towards cyclic reconstruction. Love, hate, hope, happiness, and sorrow are but motions or processes in the universal trend onward. In so far as religion teaches that there is absolute evil, but doomed

¹ *Professor Huxley*, by E. Clodd.

to extinction, it teaches what is intrinsically untrue. On the other hand, it is no less untrue when it teaches an absolute good. If it is untrue in the one, it is no less untrue in the other. Religion has built a strange and motley edifice, bulky without being great, and dazzling without real or steady splendour.

The human mind has yet to be awakened to a full apprehension of the difficulties that organised and official religion has placed in the way, not of the scientist merely, but in the way of its own followers. We are as yet only dimly conscious of a fact which, for the thinker of to-morrow, will be a vastly important one—namely, that a considerable element characteristic of primitive man, which up to the present has entered into the theologic consciousness, is the survival of what may be called a “spiritual barbarism,” having its source and seat in a belief in the supernatural. We cannot, without shocking reason, put an estimate on mere belief apart from a specific knowledge of its source—its source indicates its character. It is necessary always to remember that religious beliefs are merely speculative translations of mind-impressions, modified by the growing knowledge of the years—translations of the instincts, passions, and thought-forms of primitive barbarism and superstition. When religion discards its mythical or traditionary elements, and abandons its hostility to common-sense by acknowledging the laws and facts of existence, it will cease to be religion and become social ethics, thus by an easy effort falling into line with science.

We do not condemn religion without good reason when we remember the various kinds of channels in which it has flowed from the Orient to us in the West, and the history it has carved on the millenniums from its dawn *until to-day*.

There is a story told of a Mexican embassy to Cortes which might serve here as a parable. The ambassadors thought the Spanish conqueror a god, and thus addressed him: "Lord, if thou be a fierce god that lovest to feed on flesh and blood, here are five slaves; if thou be a gentle, mild god, here are incense and feathers."

All through the past millenniums have men been acting the Mexican parable and questioning whether their Deity "be a fierce god," or one that is merciful and mild. They cannot even yet say what He is, or if He is.

The logical verdict which an unprejudiced judge—if he could be found—would pass on most, if not all, religious systems would be that all through the ages they have hopelessly held millions of men in bondage and fear, debating what sort of an appetite an apparition possesses. The history of religion is a melancholy record. There is no monument of the past which arouses more regret, mingled with shame for the folly of the race, than its religious history. It is estimated that scores of millions of human beings were put to death by the Papal Church between the third and the sixteenth centuries. Under the influence of religion, Carthaginian parents placed their children in the red-hot lap of their religious deity. Under its influence Aquinas was prompted to say of heaven: *Beati in regno celesti videbunt poenas damnatorum, ut beatitudo illis magis complacet*—"The blessed in heaven will find in their vision of the torments of the damned an increase of their own blessedness." The late Cardinal Newman, in his *Arians*, says that "a publisher of heresy should be treated as if he were embodied evil." Such was an earnest man's charity. All through the history of mankind religion has filled the human heart with bitterness, and made human feet print their paths in blood.

Anselm, in his *Cur Deus Homo*, represents his God, to use Harnack's words, "as a mighty private man who is incensed at the injury done to his honour, and who will not forgive until an adequate satisfaction has been offered." If such a spirit of reconciliation be Divine, it should awaken no surprise in men if it is also very human and very common. It would be easy to crowd these pages with historical instances of the inherent barbarity of organised religion. It causes schism wherever it is introduced. Just and true minds acquainted with its history surely cannot hesitate to support our statement, or give ample evidence, were it necessary, that theology, as religion's instrument, has always been distinguished for its intolerant instinct. It is only the truth to say of it that contention, jealousy, bitterness, and lies are its native atmosphere. Its nature and habit are aggressive and despotic. It has been less a system of thought than a scheme of clerical aggrandisement prosecuted with inflexible persistency and cruelty. More frequently in the arena than in the observatory its aims were to obtain dominion over every estate of men rather than to promote their advancement.

It would not be absolutely accurate to say that the fighting instinct in religion has been altogether or exclusively opposed to truth. Occasionally, or when the Church hierarchy could understand an ethical attitude—i.e., an attitude which, in the opinion of the Church, would not impinge against its infallibility, but could be made contributory to its exclusive and priestly interest—it tolerated it, but guarded itself against any inoculating tendency it might develop. But the Church, as the exponent of religion, has ever been, until recently, deadly hostile to progress, which depends on the unfettered use of reason applied to the duties of daily life. Some will say, and with truth, it is to the fighting

instinct in man that all progress is due—theology not excepted. Hegel is never tired of teaching how it is that affirmation, denial, and a higher affirmation containing and reconciling the elements both of affirmation and denial, are the mind's chief way of movement. But it is easy to approve of Hegel's theory without in the least having to abandon our contention. What we affirm is that it is neither the intellect nor the energy of theology which is blameable for the superstitious vices it breeds and shelters under the semblance of Christ's teaching, but theology in conjunction with the normal flexibility of human credence—a condition of mind which offered theology and its votaries the coveted virgin soil for the development of the barbarous and superstitious propensities of a primal age.

The pugnacity of the founders of Christianity is not the least characteristic feature of their apostolic life. There must have been very hot blood between St. Paul and some of his fellow Apostles if we accept as testimony the epistle to the Galatians. The Judaisers detested Paul as an ecclesiastical libertine. Jerome accused him of using passages from the Old Testament to his own ends. Froude says that, while Christianity intentionally was a "principle of life, the most powerful check upon the passions of mankind," it had been succeeded by that "dogmatic system of opinion," which, he adds, "has converted men into monsters of cruelty."

It was at this schismatic stage of development that the Christian religion displayed its disintegrating instinct, and wrought irreparable havoc in the world during the long period of sixteen centuries. Not yet has it emerged from the parasitic stage; but its apotheosis will be in conformity with its beginning. It is seen to be almost as virulent, at least in intent, in the twentieth century

as it was during the Nestorian controversy, when Cyril at Alexandria and Nestorius at Constantinople were aiming not so much to get at the truth of facts as to crush and annihilate each other. The disgraceful Council of Ephesus gave further evidence of the bitterness which religion occasions, when even the Emperor, in dismissing it, shocked and indignant, rebuked it in these words: "Return to your provinces, and may your private virtues repair the mischief and scandal of your meeting."

It is to be feared that the Council of Ephesus is too often re-embodied under changed conditions, even in these days, since in Church presbyteries and assemblies it is vividly recalled in their attitudes, discussions, and deliverances. Unfortunately, the chief magistrate of the realm cannot be in their midst to rebuke their mischievous speeches and uncharitable demeanour and actions. But a vast deal of religious or ecclesiastical energy had for its inspiration the mere lust of conquest. What is needed to be understood is that the ancient passion of religion is not yet exhausted, for it is still at the bottom of many a crusade against human reason, although not now so openly hostile to the weal of men. Notwithstanding, the real issues of religion are against human progress. The lion lying down with the lamb is an ecclesiastical dream of conquest—an oriental and poetic idealism, but totally impossible of fulfilment by religion. The golden days are much more likely to come about as an achievement of science.

Barbarism and the religious or theologic idea are contemporary characteristics. They represent the reign of the human emotions before reason asserted itself. To prolong the gratification of the emotions, therefore, against reason is to prolong the barbaric folly of *surrendering* ourselves to the despotism of the unreal.

Truth has its throne in the actual, or in reason alone, whence come right judgment and equity.

Science and commerce are, we think, the only reliable factors which are capable of bringing about universal amity, since their design is to supply mankind's unceasing needs, and not the inculcation of a demoralising dogma of good and evil, which is on the continual outlook for obstacles to universal brotherhood and the reign of reason.

Good and evil, then, are not mere righteousness and wickedness, so-called. These supposed counterparts are complements—the two poles between which all existence acts, and which makes for progress. It is not creditable to human intelligence that the terms "good" and "evil" should have an almost exclusive relation to religion. Such relation as they have is accidental, if not wholly strategical, without the excuse of elementary necessity, since they were, and are, natural conditions, or phenomena of matter.

Not from any supernatural significance of the mutual hostility which is implied by the terms "good" and "evil," when divorced from their purely physical sphere, can religion hope to impress men. It must abandon that idea. It must leave the spiritual for the physical, where it may be able to begin a career of usefulness, and thus make some amends for its history of wastefulness.

Let theology try for ever, it will totally fail to achieve a disjunction of these interacting poles, which it arbitrarily calls "good and evil," much less the extirpation of the latter as a principle from the universe. They are the proofs of terrestrial cosmos—contemporary functions of the universal system no less than planetary motion itself. As negative and positive electricity are chemical elements essential to matter, so good and evil so-called, which are closely identified with electricity

are positive and negative forms of action indispensable to the evolution of human progress. They are manifest in the lower animal organisms as a form of conscious adaptation, and in the human as a form of ethical consciousness. A charge of positive electricity has the property of inducing another charge of a negative kind to itself or from a conductor near it, and, as the earth is a conductor, it follows that a charged cloud sailing over it induces an opposite charge on its surface. These two charges attract each other and tend to combine. The charge on the earth heaps itself on the most prominent and pointed objects—for example, on hill-tops, spires, and trees. If the attraction is sufficient to break down the resistance of the intervening air, the charges rush together with a flash and report. Substitute for the words "negative and positive electricity" the words "good and evil," and apply them to human conduct in its normal aspect of right-doing and wrong-doing, and we have an illustration of what good and evil are in the phenomenon of electricity. The Christian religion has, by superstition and clerical ambition, been made to bear a pseudo-sacred character, which in ignorance it has chosen to illustrate two eternal physical principles, "good" and "evil"—by the latter term meaning an alien something from somewhere which it cannot locate, but which somehow invaded this world and the heart of an originally perfect man, and which ever since has subjected mankind to its malevolent power. A little rational reflection along the line of physical law must surely convince unprejudiced thinkers that, in the very nature of things, this dogma is absolutely illogical, untrue, and supremely ridiculous.

This discussion of "good and evil" may be thought too prolonged and diffuse, but the importance of the *subject* in the newer light which science and reason shed

upon it is our excuse. We come now to the consideration of an adjunct or branch of the dogma of "good and evil"—namely, the so-called "Moral Forces."

We have briefly referred to love and hate, hope and sorrow, as defined by theology. Let us consider these qualities in their fundamental aspects.

It will be obvious, we think, to those readers who have followed our reasoning that, if all the forces or elements known to science are intrinsic momenta of the universal material system, it is not strictly accurate—not accurate at all—to call any form of them *moral* or *immoral*, except for the purposes of mere expediency. Nature never transforms any part or function of her system into anything but what it is, nor can any power take from her, or suspend, or really modify, any element or function whatever. Her realm and sway are universal and absolute; and, by whatever names men choose in their ignorance to call natural phenomena, these names—except that they are confirmed by physical science—do not make phenomena something which they are not, but often quite misrepresent them. What are love and hope, hate and sorrow, in their action and reaction, or their relative sensations of pleasure and pain? It is perhaps necessary, in passing, to mention that love and hope, hate and sorrow, are sensations so named, and are neither causes nor results of sensations. Men and women are not exclusively subject to these sensations. They are common to all forms of organic life. In other words, sensation is a form of motion which all bodies are possessed of to the degree of their development and need. The physical forces of attraction and repulsion are identical as forms of motion with the human sensations of love and hate, although less complex. Human sensations are the individualised or specialised forms of the *pro* and *con* universally distributed in matter: in the physical,

essential to the stability of the cosmos; in the human, essential to the stability of human society. Human love is the cosmic attraction of affinities between two poles of contact, thus performing the building-up process in human existence. These affinities are the chemistry of the nervous system centering in the brain, where they are dissected, and thence discharged or transmitted through the senses back again to the external world. Love and hope are impossible as sensations, except as they have their external and corresponding affinities. The coalition of love-affinities is a universal law or instinct, and is the basis of organic fecundity, or, to use the term already employed, the building-up process. Unsatisfied desire is an essential element of love, as it likewise is of hate. The intercourse of the affinities—i.e., their action and reaction upon the nervous system—is part of the economy of nature by which the sensation of pleasure and the hope of pleasure are secured. It is the affinities in reciprocal motion which arouse healthy reciprocal desire, and except for which the resources of love and hope would be impossible. Sensation depends not merely on the reciprocal attitude of its objective, but also on the relation of the organs of sense to the affinities of the subject. It is thus an element or function of existence, rudimentary even in the atom, which is in perpetual motion, ever attracting or resisting. All existing objects are responsive in their affinities, which obviously implies pleasure and pain, or the equivalent of these; and contingent on these are the sensations of desire for or against, which are the characteristics of all healthy organisms.

Without entering here into a discussion whether or not man is the only animal in the possession of mind or the faculty of reason, by which he knows, reflects, and compares, we would only remark that the faculty is

wholly organic and mechanical, and inferentially, therefore, common to all animals more or less developed, and normally equal to their need.

There is nothing whatever spiritual or superphysical about human or animal function, since it is the equivalent sequence of matter in motion. Love and hope are pure physical sensations, dependent on the juxtaposition of affinities, common and conscious to all organisms and inorgana.

Having said so much bearing on love and hope, it is not necessary to say much regarding their counterparts, hate and sorrow. They are closer allies of love and hope than at first sight appears, or than many would admit, since they are these others' corresponding poles. They are the resisting, just as love and hope are the attracting or constructing, motions common to all inorganic as well as to organic matter. This is a supreme fact of existence, and is the explanation of cosmic and cyclic order. Moreover, this fact is the actual conception-truth of the Christian religion, as well as of all others which affirm the existence of a heaven and a hell, albeit the supernatural gets the credit of it. The Christian dogma is logical, since in so far as it postulates a heaven it must imply a hell as its opposite or pole. The antecedent postulate of a God must also imply a devil as His counterpart. Although the postulates "God" and "heaven" are, in our opinion, pure and absolute myths, the deduction therefrom is perfectly logical—namely, that the idea of a supreme *benevolent* Being necessitates the counterpart of a supreme *malevolent* being. To be perfectly logical, the Absolute, whatever the term may theologically signify, contains in itself the solution—namely, that in the Absolute Unit or the Universe there is the two-fold force or polarised eternal energy by which all things are upheld, and regeneration infallibly secured.

Thus, between love and hate, or the two poles of human action, all the emotions and passions have their ebb and flow, and all the actions and destinies of men and women, and all organic existence, have their inspiration. The emotion or passion which does not reach the intensity of what is called love or hate is, notwithstanding, the inevitable sequence of one or other of these passions in a more or less pronounced form. And just as the lesser or modified emotion or passion flowing from the one pole or the other is subsidiary or incomplete, so can it only attain its full intensity by a free and answering discharge from its complementary pole. In other words, love is just hate at its farther extreme action, and hate is just love seeking readjustment.

We sometimes hear of love at first sight, and of hate being aroused in a moment of time. Strictly speaking, both these statements are inaccurate. The complete passions, love and hate, are the *extreme* of their greatest intensity. All sensations or emotions less than the complete are therefore really less than their extremes, which, when reached either in the physical world or in the human mind, mean collapse followed by readjustment. Hence the phenomena of violent atmospheric or seismic disturbances in external nature, and the frequent lamentable instances of suicide, or insanity, or other forms of disturbed equilibrium, in human nature.

To maintain love and hate in their completeness, they must be in constant touch with their respective poles, otherwise both decline and ultimately collapse. Sunshine and storm, earth-rest and earthquake, material cosmos and material chaos, are phenomena identically the same materially expressed between the poles of constructive and destructive action, as are kindness and cruelty, gentleness and savageness, happiness and sorrow, *friendship* and enmity, which oscillate between the poles

of love and hate. The medium or mode of operation is only constructively different. The intrinsic quality of motion is the same in all universal forms and objects—it is eternal and mechanical. There are no phenomena that are not material sequence; and since cosmic potentiality is polarised, conserving and distributing motion or force to constructive issues, the material universe is a unified system in which its infinite parts respond to its own infallibility and eternal need. Attraction and repulsion are not more mechanical or material than love and hate, which are the specialised or sublimated product of matter. This introduces us to another aspect of the term "good and evil"—namely, the theologic or "moral" aspect, or what the late Professor Bruce called "The Moral Order." We are not in any way hostile to the phrase in a philosophical sense, which may be elegant and faultless as such, but only to the false religious significance which clings to it, and with which it had no relation in its original setting in ancient philosophy. It is a term conveniently, if not flatteringly, descriptive of all conditions of mind between what might be described as a strictly religious and a strictly sceptical attitude. There is some difficulty, therefore, in fixing its real definition, if it has such, since "moral order," so-called, may, and actually does, describe the conduct and attitude of mind of an unbeliever as well as a sincere believer in Christianity. In trying to find out what "moral order" means, we will revert to its primary significance—namely, the *living conditions* of communities at any particular time. It is not, therefore, an exclusive sequence of Christianity, or any other religious cult, as many religious persons suppose.

Clerical covetousness has a trick of borrowing its aptest terms from philosophy and science, and applying them exclusively to its own faith, and of these terms "moral order" is one. The expression really means

the living conditions of communities determined by the best approved ethical rule or standard of life and conduct, which, however, at all times must only be comparative. At no time would "order" under these conditions be any less real or serviceable were the prefix "moral" omitted. As the term implies, "moral order" means order in the mind, which ultimately means a just or reasonable mental attitude—literally, the attitude adopted by society at any period of time—as distinguished from an unreasonable or oblique mental attitude. The word "moral" was doubtless prefixed from an ethical or religious motive to distinguish between forms of human conduct and from that of the lower animals, whose mental powers were at that time supposed to consist of mere instinct, or a blind impulse of nature. If the word had not been coined then, when a knowledge of science was of the scantiest kind, it is doubtful if it could be framed now, when science has proved the comparative intelligence and consciousness of all organisms. Reciprocal respect, founded on human necessity, which begets mutual tolerance and communal interests, the fruits of which are goodwill, chastity, equity, and security, is an order of the highest quality. The mere prefixing of the word "moral" to order could certainly not increase its worth, and no religious cult could add a higher element to it. We have but to turn for proof to the teachings of the Buddha and Confucius, which were not religious in the modern sense of the word, and to Greek and Roman philosophy.

"Moral order," then, if it means anything, means a code of conduct approved of and accepted as the conventional standard of communities—a standard which may be discarded or modified by other communities according as their physical, social, or mental conditions may determine. This standard is never found ready *made*, which it would be were it spiritually or divinely

derived. There is nothing miraculous in the good or "moral" conduct of a village, town, or city. It is to the interest of each that he should be law-abiding. Nor does it signify to what height the quality of conduct reaches; it is exactly the expression of the quality of its communal necessity at any time. In short, "Moral Order," so-called, is the natural sequence of living conditions, and cannot reach universal uniformity, for the same reasons that climatic conditions cannot possibly be uniformly the same in all parts of our planet. "Moral Order" implies moral disorder. But there is no disorder in nature whence we come. Something cannot proceed from what never existed. Streams must be as their sources are; and if there be but one source and one stream, there must be mutual likeness or identity. But, it may be said by the religious-minded, a stream may become polluted, and hence a remedy is required for cleansing it; therefore, there is a spiritual remedy provided for "moral" disorder. We have tried to show that there is not, and cannot be, disorder in the universe, and, therefore, "moral" disorder describes nothing that exists. Moreover, pollution as applied to a stream—or, indeed, to anything—does not mean an element that is intrinsically evil. Pollution means an element that is only chemically different from the stream—a passing contribution or condition which has nothing whatever antagonistic to the nature or source of matter, but is a part of a consistent system. If there be a "moral" disorder in the world, where has it come from? There is nowhere it could come from, and, therefore, it is not. Apparent disorder is merely Nature's cyclic method of reconstruction. The term has been usurped by clericalism to differentiate between what it calls "spiritual enlightenment" and the natural standard of human conduct, implying that the latter could not

reach by ordinary motive or method the high quality of merit which is attributed to a superhuman agency.

How should a person's integrity in the performance of warehouse work, bank duty, or any other calling, arise from an inferior order of motive—*i.e.*, less moral or non-moral—than the integrity of motive felt in writing a sermon, doing a charitable act, or even an act of adoration? Unfortunately, there is caste in human labour: there is no caste in the true royalness of equity, integrity, and charity, however conventionally mean the labour may be that practises them. These patents of true nobility arise from a source no meaner, and are not changed in kind when practised by a heretic than when practised by a Christian. The motive that is pure and high-minded, and practically helpful in the world—no matter whether it is felt by a heretic, a chimney-sweep, or by one who wears a mitre, a phylactery, or a crown—has *rightness* for its coronet, and all clerical distinctions are so much mummery and ephemera. If there is any distinction, it goes to the true nobleness of pure motive—the pearl of human conduct, inspired by a knowledge of the laws of being rather than to a "Moral Order" spiritually derived. The theologic theory of "Moral Order" is a fiction—a compound of false piety and disloyal interest. The more it is confronted by reason, the less reason it yields, and finally vanishes before the real facts of existence. "Moral Order," then, cannot be an effect of supernatural intervention, since, as order, it is the outcome of social or common expediency, and conformable to recurring changes, like all material sequence.

"Moral Order," so-called, may be understood either as an unwritten ethical standard of conduct for communities and the protection of property, or it may be *formulated* and administered by the State for like ends.

In a primitive state of society, when individual interests were limited and simple, the unwritten "Order" would cause the rights and interests of the members to be mutually recognised and respected. This recognition would arise partly from fear of physical consequences of its violation, and partly from a desire to be trusted and thought well of—a desire which many of the lower animals also entertain. But with the increasing growth of communities, and the eventual massing of complex interests, "Order" could not be left in the rudimentary form of being merely understood. Public and private interests, from very quantity, and the disintegrating consequences of opposing interests, jealousies, and ambitions, which, in themselves, are not evils, would soon produce a chaotic tangle, the issue of which would be anarchy, did not some constituted order enforce social and civil need. But for some form, therefore, of civic government, which communities themselves should frame, an unwritten "Order," which might be effectual among a small and simple people, would, among a populous and complex community, be attended with the utmost danger. Surely no sane person would affirm that civic or social legislation framed for the weal of a community, and therefore for individuals, is the result of Divine ordination acting occultly in the natural outcome of human necessities? Everybody knows that an organised state is the precise product of its co-operative units as an equitable system of living conditions.

Nor is "Order" merely a human characteristic. As has been already observed, it is also something like a statutory condition of most, if not of all, organisms, for reasons and issues identical with those of men; the only difference being that, in the lower or animal sphere, the governing element is called natural "Order," and in the human it is called "Moral Order." Order, as the word

signifies among a community, is not really affected by religious feeling, since it is the product of social and civic conditions arising in equity and reason. Living conditions are of necessity, at any given time, the best obtainable. If theology will persist in using the prefix "Moral" in speaking of living and orderly conditions, which are the outcome of social and civic sequences, let it at least be true to nature, and not attribute them to other than *known* operations. Thus interpreted it would help to mitigate the mischief which a superstitious rendering of the facts of existence entails on the imagination to the detriment of reason. But surely, if "Moral Order," either as a mere term or a scientific fact, or even as a near relation to religion, were of supreme necessity to human life, why should it relate to human life alone, and not also to the whole organic kingdom? If it be a supreme need for reasoning men, why should it be withheld from reasoning animals, from whom men have sprung?

Theological apologists would make it appear that it is because man is so unreasonable, or so wicked, that he needs a supernatural or "Moral Order" to make it safe for him to live in masses; but if for man, why not also for all animals, reasonable or unreasonable? "Moral Order" is but a name rendered intelligible as a form of living conditions attained by adaptation, in which the "survival of the fittest" prevails. Think of the common life and relations of the animal and plant world, the internecine feuds between plant and plant, animal and animal, and also between plant and animal, and you will discover everywhere and at all times a process the complete opposite of that amicable communion which so-called "Moral Order" implies. Yet all this apparent conflict is the highest "Order," and it is also the only "Order" which obtains or can obtain in the human world.

Theological apologists, who insist that morality or "Order" will vanish if their dogmas are exploded, would do well to consider the fact that in the matter of intellectual veracity science is a long way ahead of the Churches; and that in this particular it is exerting an intellectual influence on mankind of which the Churches have shown themselves utterly incapable.¹

Says the same author :—

Of moral purpose I see no trace in nature. This is an article of exclusively human manufacture, and very much to their credit. How could ethical nature, as the offspring of cosmic nature, be at enmity with it? If the ethical process is not a part of the cosmical process, it must have been imported, and is, therefore, to be referred to supernatural intervention. The rudiments of ethics are found deep down in the animal world.²

In proof of the ethical or orderly faculty in the lower animals, Huxley again says :—

Among birds and mammals societies are formed of which the bond in many cases seems to be purely psychological—that is to say, it appears to depend upon the liking of the individuals for one another's company, that love and fear come into play, and enforce a greater or less renunciation of free will.³

Struggle is the law of existence. Natural order—whether it is falsely represented as "moral" or "spiritual"—must at all times develop itself. It developes in the social organism naturally through the need and intelligence of man himself. Poets may sing about idyllic peace, joyous ecstasy, the beneficence and glory of Nature; and pious souls saturated with superstition, or rapt in contemplation, may rise into transports about the infinite love and goodness of a Creator, incarnate in earth and sky. Let them study Nature as it is if they would know truth; let them see it act and react; study evolution on the wheel of eternity in unceasing sequence, and they will be indebted to no occult agency

¹ Huxley, *Collected Essays*, V., p. 142.

² E. Clodd, *Professor Huxley*, p. 213.

³ Huxley, *Collected Essays*, IX., p. 115.

for the truth concerning themselves. But let us analyse the term "Moral Order" as it appears to us in the construction of the society of to-day, and we shall find numerous ironical illustrations of its meaning. In the Middle Ages "moral" popes built dominion on the Inquisition and its ingenious methods of torture; and in these days of abounding humanitarianism we find "Moral Order" in excessive militarism with its scientific death-inflicting weapons. And what for? For identically the same ends that the so-called representatives of God on earth schemed to attain when they were in the ascendant. Think of the passions that are kept prowling under the guise of religion; its devouring greed that can stoop to unscrupulous means for the possession of coveted station; and the lust of social distinctions that are as the wheels of Juggernaut. Are these the symbols of a "Moral Order" or the long-predicted signals of a Christian millennium? The jealousies and schemes of the Churches, even in the twentieth century, but for the merciful intervention of the light of science, would be as unwearying in the practice of their ancient and characteristic methods for power and control as they were when they had no such foe or friend as science face to face with them. Think of how mankind in the widest sense still lives; and what does "Moral Order" mean as applied to human existence so considered? And yet order, Emerson says, of the best possible kind, rules:—

The idea of right (or order) exists in the human mind, and lays itself out in the equilibrium of Nature, in the equalities and periods of our system, in the level of seas, in the action and reaction of forces. Nothing is allowed to exceed or absorb the rest; if it do, it is disease, and is quickly destroyed. It was an early discovery of the mind, this beneficent rule. Strength enters just as much as the moral (orderly) element prevails. The strength of the animal to eat and to be luxurious and to *usurp* is rudeness and imbecility. The law is: To each shall be rendered

his own. As thou sowest thou shalt reap. Smite, and thou shalt smart. Serve, and thou shalt be served. If you love and serve men, you cannot by any hiding or stratagem escape the remuneration. Secret retributions are always restoring the level, when disturbed. It is impossible to tilt the beam. All the tyrants and proprietors and monopolies of the world in vain set their shoulders to heave the bar. Settles for evermore the ponderous equator to its line, and man and mote and star and sun must range with it or be pulverised by the recoil.

The same author in another place says:—

He that plants his foot passes at once out of the kingdom of illusions. Others may well suffer in the hideous picture of crime with which earth is filled, and the life of society threatened; but the habit of respecting that great order which certainly contains and will dispose of our little system will take all fear from the heart.

While that belief is best which does the most good in the world and brings the most happiness to men, it is ours to see that it is the truest as well as the best. We are born to help the work of the universe; to imitate, whether we will or not, the methods of the universe from whence we are and to which we go, which sleeps not on an old past, but moment by moment mends broken parts and heals hurting wounds, giving to us with every morning sun a new opportunity, and with every bound of the pulse a new life. Just as we work with Nature, and seek her order and her intent, shall we be strong with her strength, and efficient as she is in all she does. In so far as we wander from her ends we divest ourselves of power and all true resource, and are among the things which she casts out.

In bringing this chapter to a close, we would consider briefly the inverse of "Moral Order"—namely, Moral Disorder—which is merely the other's negative. Whatever we have said of a positive and progressive kind in relation to the former may be said of a negative and reactionary kind in relation to the latter. Both form a complete circle of action at opposite poles; the relation between them is a fixed one—i.e., their reciprocal distance or action

can never be increased or diminished. Nor can a suspension of the action of either ever take place, except that universal law itself changes, and runs on other lines than those which from eternity were unbegun. We would not have it understood that order in degree and kind should not in some way be postulated, since there cannot be a dead level of living conditions in human society. What we insist on is that in any distinction made there should be the recognition that it is due solely to natural law, and not to supernatural or divine ordination: the comparative value of moral order and disorder must be ascertained by ordinary and natural methods alone. The theological equivalent of the true conception of order is Providence; and the doctrine of determinism follows as logically from the attribute of foreknowledge as from natural causation taught by science. Moral disorder, so-called, can be shown to result from disordered nerve-tissues; from the overlapping of the folds of the brain; from the predominance of white or grey substance of the brain; or from increase or decrease of its phosphorous; from the lack of normal rhythm in the beat of the heart or some pulse; from the irregularity of the vibration of atoms in the ideas; or from some other equally contingent or physical cause. The following is from *The Final Science*, by an American writer, whose opinions on this section of our subject carry great weight:—

* In materialistic morality nothing is grafted on matter; it is as purely material as is the stone. All that exists is the result of necessary law; therefore, morality is responsible neither for its existence nor for its character. One kind is just as necessary, just as reliable, just as true, and just as right, as another. But modern scientific morality, while also
 * purely natural, is, of course, the highest evolution of ethical matter under the judicious direction of physical law.

The atoms cannot at once leap into ethics; but by passing through
 * various evolutions they finally attain so lofty a development that they can

rub out morality. The atoms themselves cannot change; we consequently evolve the universe by atomic friction. By rubbing together their outsides the atoms produce the inorganic world, by rubbing together their insides they evolve the organic, and by rubbing together both their outsides and insides they create mental phenomena. Ordinary mental phenomena are the product of an equilibrium between the external and internal rubbing: when the internal friction is more violent than the external, we have the genesis of morality and religion.

Only those [the writer continues] not familiar with the possibilities of atoms will object to this explanation. Various affections of the mind depend on the swiftness of the atoms; the degrees in these affections are the result of quantity, so that the thought will be active and the feeling intense in proportion to the number of atoms. Intensity may also be the product of rapidity of motion, but this is not confirmed by observation. We cannot conceive how consciousness can result from a union of independent atoms; it is, therefore, better to create it some other way. When one atom rubs another and strikes hard, it makes an impression on the other atom, arouses its attention, makes revelations to it, and thus creates consciousness. This is the general form of consciousness found in all animals. When an atom is in profound solitude, and so rubs itself as to turn its inside out and its outside in, and then examines both sides, and also their relations to each other, self-consciousness is produced. (This is Fichte's Ich or Ego.) When this self-consciousness compares itself, by means of friction, with all the other atoms, it develops itself into a world-consciousness, or a consciousness of the world. Self-consciousness is the eye (or atom) which sees itself; a consciousness of the world is the eye viewing the world; and consciousness as a whole is a mirror which sees itself as well as the objects which it reflects.

When atoms rub externally first, and then internally, they produce sensations—the external penetrating the internal, which is the essence of all sensation. When they rub internally first, and then externally, they create the phenomena of the will, which is a process from the inner to the outer. Between these two processes lie all the phenomena of thought and emotion. All thought being founded on sensation, it is the product of the external rubbing of the atoms which works effects in the interior—thought being simply the product of working over internally the results of external friction. By keeping the effects of the several rubbings we get general ideas; by pleasant rubbing, as when an itchy spot is scratched, we get the pleasurable emotions; and by eliminating the rubbing, the atoms and everything else, we get abstractions, or rather we imagine we get them, for in reality we get nothing, all that is real having been abstracted.

While this psychology of the atoms was prepared for the purpose of throwing light on all their mental processes, the main thing which

concerns us here is the evolution of morals and religion, which, as demonstrated, are thrown off by the harder internal than external rubbing. That this is really the process is also evident from the fact that they are chiefly internal, being matters of the conscience and the heart, while their outward form is but a revelation of the inner state. Conscience is the principal factor and supreme guide in morals (or order). It is not peculiar to man, but is found in a rudimentary or germinal state in all animals. The germs of conscience in brutes would, if sufficiently developed, render their possessors as moral as some men are. In the dog, for instance, there are signs of fear, which can be made analogous to the moral sense in man. The wagging of the tail is a moving evidence of the approval of conscience, while remorse is expressed by a rigid depression of the same member. Traces of conscience can also be found in monkeys; when their consciences were aroused by scolding they have shown signs of fear—an unmistakable evidence that they discerned between right and wrong. Monkeys have been known to extract thorns from each other's hide "conscientiously," which is highly significant! The exact locality of conscience in brutes has not received the scientific attention it deserves; we cannot, therefore, determine just where it has been deposited by friction. Indeed, vestiges of conscience can be found anywhere; therefore, morality is only a scarecrow, which cannot frighten materialists from a hearty recognition of their relation to the brutes.

Professor Vogt does not agree with Darwin that man "alone can with certainty be ranked as a moral being." But Darwin believed that the lower animals practised morality.

With his wonderful gift of scientific acumen he found evidences of an order and a morality wherever he saw fit to exert his observation. He says:—

Look at a family of cats or bears, watch the conduct of the young, their training by the old, and then state whether there is not found there a picture of the human family, with all those manifestations of the notion of good and evil which anyone can demand. I admit that it is cat morality or bear morality which is here taught and instilled into the children; but, nevertheless, it is morality, and the young cat which does not come at the call of the mother, the two-year old bear which does not properly take care of its brothers and sisters, are growled at and receive a box on the ear just as the dear human children do if they ignore the first conception of human or Christian morality—namely, filial obedience. Here we have a moral sense, moral training, and morality in animals. Truly a striking picture of the human family.

George Meredith gives rhythmic expression, in his great poem, to man's relation to nature :—

"He may entreat, aspire,
He may despair, and she has never heed ;
She, drinking his warm sweat, will soothe his need,
Not his desire."

CHAPTER VIII.

MORAL SENTIMENT

IN the former chapter a number of subjects came under our review which might, and perhaps ought to, have been dealt with under separate headings. But they group together so consistently that to have given each a chapter to itself would have yielded no equivalent advantage. Moral sentiment is none the less connected with the foregoing subjects; but since sentiment is mainly a psychical phenomenon, it naturally falls to be treated in a separate chapter. In dealing with subjects which have so close a relation as those which we have endeavoured to treat in the foregoing pages, we feel that some repetition and a certain similarity in the use of terms and arguments are unavoidable. We hope that weakness will be overlooked for the sake of the subjects themselves, which must have a supreme interest to all who are in search of truth.

In the closing pages of the preceding chapter we ventured to show that the phrase "Moral Order" ought not in any true sense, and cannot in a scientific sense, be distinguished from normal or natural order on any theory which implies a different order of forces from the mundane, to which men and all phenomena are heirs, and to which they must conform. So long as men live they are conformable to time and space in every sense which these words signify. They have no choice and no escape—a fact which, rightly considered, goes to make for human happiness. Their involuntary submission

aids evolutionary progress, and will irresistibly develop changes in the structure of the human organism. Thus men become contributory to their own unlimited scope of development. The utmost that can be implied in the term "Moral Order" is that it may be used to denote an advanced form of living conditions as compared with a less advanced form. The laws of our country, whether in force in the city slums or in the suburban villas, are the same. They have their source in a constituted energy; nor can they be so framed as to have an inferior authority in the slum district to that which they have in the villa district. In the latter they may work more smoothly, but neither the source nor the authority of the laws is changed thereby, since they are ordained and administered for the common good.

A sound analysis of human conduct will show that men's actions are the issue not of their own volition, but of determining pressure from without. The essence of the doctrine of free will is that human volition is self-caused—that is to say, not caused at all, for, to cause oneself, one must have anteceded oneself, which, to express it thus, exposes the fallacy of the doctrine. Actions do not require to be called religious or profane, sacred or secular, to be classified as fortuitous, for, if chance could succeed in disarranging cosmic or cyclic sequence under any conceivable circumstances of relaxed law, there would be nothing to hinder it from acquiring dominion over all law, when all order—"Moral Order" inclusive—would cease; and there exists no other law in the universe which could restore it. In his *Collected Essays* Huxley says:—

Moral duty consists in the observance of those rules of conduct which tend to the welfare of society,*and, by implication, of the individuals who compose it. The end of society is peace and mutual protection, so that the individual may reach the fullest and highest life attainable by man.

The rules of conduct by which this end is to be attained are discoverable—like the other so-called laws of nature—by observation and experiment, and only in that way.¹

Again, the same author says :—

With the advance of civilisation, and the growth of cities and of nations by the coalescence of families and of tribes, the rules which constitute the common foundation of morality and of law become more numerous and complicated, and the temptations to break or evade many of them stronger. In the absence of a clear apprehension of the natural sanction of these rules, a supernatural sanction was assumed, and imagination supplied the motives which reason was supposed to be incompetent to furnish. Religion, at first independent of morality, gradually took morality under its protection, and the supernaturalists have ever since tried to persuade mankind that the existence of ethics is bound up with that of supernaturalism.²

So much the worse for both.

There is no trace of moral purpose in nature ; it is an article of human manufacture exclusively. Human volition is no less a motion of matter than is the action of any sense, and it is under no less external control than any other motion, whether of sense or mere matter. A man's will, such as it is, has not the determining of his conduct. Human volition is only a detail in the cosmic system, and action is the fixed resultant of external operations, of which volition is the medium in relation to human conduct.

Brain or mental motion has no self-controlled attribute, but makes use only of what it receives from without ; and not alone in respect to external momenta is this true, but also in respect to the kind or quality of momenta out of which the brain returns sequence. The work of the brain, therefore, is not to control, but to execute through the will-medium the *intent* of the impressions received. Deprive a man of his nerve

¹ E. Clodd, *Professor Huxley*, p. 205.

² *Ibid.*, p. 207.

communications with the outer world, and you might as well deprive him of existence.

Further on we shall deal with the doctrine of Free Will more fully. We are now in a position to look into the subject of this chapter in its relation to the preceding one. The orthodox meaning of "Moral Sentiment" is the emotion or thought evoked from a mind which is right principled. In other words, it denotes a mind in order with the universe, resulting from two poles of thought. This definition we consider accurate, since there must be two poles of action, the one being the occasion or need of the other. Of course, a moral sentiment might be evinced by a mind in disorder, so-called; but that cannot affect the fact of order and disorder as essentially reciprocal and in equilibrium. Sentiment implies susceptibility of a sense, or of the senses, to external impressions which receive their specific reflex value and influence from contact with the mucous matter of the brain. This process must always indicate order, since it is an exact sequence, not a fortuitous occurrence. But although one man's sentiment may differ from, and even collide with, another man's, it does not follow that either or both on that account are out of order or not moral. On the contrary, evidence might be forthcoming that the sentiment of each was following a distinct order of sequence, and therefore it would be unjust to call one man's sentiment more moral or less moral than another's. Such a pronouncement would imply an unworthy implication, which is too frequently insinuated. Thus we see how unjust men may become by a misapprehension of the terms which they sometimes employ in relation to others, and how the latter may therefore suffer without just cause. The utmost that the word "moral" should do would be to differentiate one kind of sentiment from another, not to constitute it a judge

in pronouncing one sentiment right and the other wrong, when both may be relatively right, and must really be so in the innermost meaning of the word, as rendered by the law of physical sequence. The opposition which two sentiments might be supposed to show to each other is only another aspect of the eternal law of attraction and resistance.

- "Moral Sentiment," then, is an ordinary or cosmic impulse, the result of a corresponding impression from without, received and translated by the brain. There are modified forms of sentiment, because there are modified or comparative kinds of impulse. It might have been this modified state of mind—which
- * is a condition of doubt—that gave superstition or religion easy access to the hearts of men as an approximate solution of their sentiment, and gave rise also to the deceitful nature of the terms "good" and "evil." Religion or superstition is a "moral sentiment" only in the sense that it is a sequence of temporary but orderly phenomena.
 - * "Moral sentiment" may be said to indicate an advanced stage of susceptibility of the mind to the order of the universe. But this does not necessarily imply an advanced stage of *knowledge* of that order—
 - * hence superstition and religious dogma. Thus, "moral sentiment," as meaning order, has never been at any time absent in the progress of mankind. We have no wish to underrate distinctions. On the contrary, all through these discussions the necessity for accurate definitions has been insisted on. What is pressed for is, that distinctions due to altered social conditions cannot proceed from other than natural or cosmic operations. Neither "moral order" nor "moral sentiment" is a graft on the natural minds of men; both are merely the normal and orderly sequence of material forces, which thus prove themselves to be exclusively physical. Since

a spiritual force—even if there is such—could be known only through matter both as its medium and source, and therefore, subject to matter, it follows that "Moral Sentiment," like its near relation, "Moral Order," is purely a material and mechanical sequence.

It might be useful to inquire here how it is that immoral actions so called, committed by certain persons, have a much more disturbing effect upon their minds than the same actions have upon the minds of another and different class of persons?

The answer may be given under two aspects—namely, a physical and an ethical. The physical is that the organisms of the one class are more sensitive to nervous reaction or cosmic order, and so, as the result of a departure from regular habits of sobriety, integrity, or chastity, by a temporary yielding to temptation, their nervous system feels the loss of equilibrium, and the reaction for restoration shows violent and distressing symptoms. The ethical aspect is, that the mind, being intimately connected (as a function) with the nervous system, participates in the recoil, and exhibits its sympathy with the stricken nerves under the emotions of regret and remorse as the certain sequence. On the other hand, to those persons whose accustomed habits are libertine, whose environments may correspond to their physical and mental habits, or whose hereditary trend may be strongly bent in the direction of licence, there can be little or no shock to either their minds or nerves when they give way to offensive indulgences; or, if there should be any shock, it is soon vanquished by the prevailing passions, and therefore, the consequences are not those of remorse, but rather of regret, when their indulgences are arrested. They may have even a sense of satisfaction in trying to slake their passions to quench any ephemeral feeling of remorse. And yet these two

sets of persons are conforming to a law of the universe—the progressive and the retrogressive.

This fact explains why immoral conduct so-called, when committed by persons who, generally, are responsive to the laws of progressive order, is frequently followed by distressing effects in its reaction on them. Of course, it is quite well understood that the progressive or restorative laws always—both in nature and human conditions—overcome and restore the retrogressive. Hence, we have social and civil expediences to aid nature's progressive action by the removal or reconstruction of the retrogressive. The lower animals have a similar system of economic administration in operation among them.

We have no quarrel with the word "morality," but we take exception to its use as a definition of natural and normal phenomena. We seek only to classify it, or find its relation, if it has any, to the infallible operations of matter. There is no gain, but loss, in misapplying terms. If sentiment stands in the way of truth, sentiment must be abandoned. Morality and immorality—as parts of speech—at the very most, do no more than indicate an attitude of mind which cannot do other than conform to physical operations. In short, as comparative social conditions or attitudes of mind, morality and immorality are wholly determined by heredity and environment. We are firmly of the opinion that, if the sentimental would give way to the scientific when questions or schemes of public utility or individual methods of reform are discussed, the results obtained would be more satisfactory. It would save the mind much sore travail to remember that it is our senses alone that impress our brain, and our brain alone that expresses and interprets sense-excitation. The occult has nothing whatever to do with physical or psychical

phenomena, since matter can be acted upon only by matter itself.

While on the subject of terminology and its proper use in definitions, we might make note of another very ill-used term which is often on the tongues of educated men—namely, “Divine law.” Theology defines natural law as confined to the region of physics—*i.e.*, inorganic and organic being; on the other hand, it creates a spiritual sphere, and affirms that “Divine law” specially operates within that sphere; and that the higher life—whatever that may mean—is due to its unseen operations. There has been already so much said about a spiritual or Divine existence that it may be almost unnecessary to say more. But, very briefly, let us inquire: What is “Divine law”—what is meant by the term? We have just said that theology creates, or, at least, postulates, a spiritual existence somewhere outside the sphere of the natural, and which alone is administered by a “Divine” or supernatural power. It affirms, moreover, that it is not limited to its own region, but can inhabit the mundane at the will of a Divine administrator. We have already arrived at the conclusion that there is not, and cannot be, another universe than the one which is—the one we live in and of which we are conscious. We have also seen that the idea of a spiritual sphere, with its so-called Divine phenomena, is a myth—a mere emotional resource—the expedient of inquiring but ignorant minds as yet incapable of understanding physical operations, which, when understood, dispel the supposititious by revealing the real. The idea is a hopeless effort of theology to define the undefinable—the phantasmagoria of dream in travail for the real.

Despite the fact that the doctrine of the “Fall”—now known to be a fable or poem transplanted from the soil of

Babylonia—is undermining the entire “scheme of redemption” built thereon, theology in desperation still clings to the equally visionary and absurd doctrines of the “Virgin Birth” and the “resurrection” of a crucified and dead man to life. It maintains that these phenomena actually occurred through the operation of a “Divine law,” although for these prodigies to have occurred would have meant at least a strange disregard for the ordinary laws of life and death, which are said to have been instituted by the same Divine law, and which reign through eternity. Evolution and palæontology have driven all such vagaries out of intelligent belief. But on the ground of reason and empirical knowledge—in the guidance of which alone is certainty possible—does it not appear absurd to make a distinction between eternal law as in one aspect merely natural, and in another Divine or supernatural? If a Divine Being created both, must He not have two natures—one for the uses of the natural, and one for the uses of the spiritual—to each of which he can adapt Himself at the precise moment when each may require His interference? Pagan ingenuity could scarcely conceive a greater inconsistency than this infirm duality of Deity. We are not opposed to the idea of a *polarised* God, but to a God of the theologic type, absolute in the attribute of consistency. The laws of nature that can transform barrenness into fertility, deserts into gardens, sickness into health, marshal the seasons unfailingly, and fix the revolutions of the heavenly bodies, are not one whit less marvellous—if marvel there be—than a man’s so-called spiritual conversion. Indeed, if there be occasion for greater wonder in respect of one aspect of the operations of law than in another, it seems to us that the evolution of organic life, leading up to the human in man, demands infinitely more than any

mere theoretical or so-called spiritual conversion in a man's opinions, motives, and conduct. Conversion is merely a changed attitude of mind under external pressure, issuing in a corresponding change of conduct, which process is a ceaseless one, and is as natural as the changes of the atmosphere or the variations in plant and animal life and habit. Knowledge of self, where that knowledge was formerly absent, will produce more radical and permanent changes for the better in a man's conduct than mere so-called spiritual conversion can ever accomplish. Where conversions do not increase self-knowledge—and there are, unfortunately, more of that kind than are at all desirable—they are generally unreal and mischievous.

In the supposition of a Creator we cannot imagine Him calling His material display of creative power *less* Divine than the evolution of "the higher life," so-called. The nature and conditions that fit men to live useful and beneficent lives are not only all that are necessary, but all that are rational and conceivable. It seems to us that, if there could be a "Divine Being," there would be more divinity displayed by Him in *making* a man than in merely *changing* his thought and conduct. But we know that the special creation theory has gone the way that myths must go. It is in vain that theology assumes the oracular in respect of phenomena which reason and empirical knowledge are capable of accounting for. Only of that which reason cannot approve, or of that which is beyond her apprehension or scope, is she disqualified from knowing; and there is nothing beyond her scope she may not know except non-existence. It seems the highest effort of human conceit to try to break up the conditions of our being into two incompatible sets, and docket one set natural and the other set Divine, merely to gratify a fanatical sentiment that springs

as much from vanity as from ignorance that refuses to know.

- * Why should a "Divine Being" practically cease to be Divine in one section of His realm and continue to display His Divinity in the other? Really, when one examines closely the distinction, how pitiable appears the silliness which has recourse to the occult for relief from the labour of thinking. The universe cannot have two sources—it must either be all natural or all Divine.
- * We have often heard people speak about the "secret energies of the soul," which are said to throw themselves from time to time off the beaten track of consciousness.
- * It is stated that adult Zulus are able to throw themselves into the hypnotic state. Hegel held that second-sight was a product of an earlier mental condition than our own. The world, it is affirmed by some, is haunted with spirits that invade our dreams. Plutarch tells us how Cæsar's wife, Calpurnia, dreamed, the night before his assassination, of the coming catastrophe, and begged him not to approach the Senate on the fatal day. Gregory of Tours affirms that, on the day of the death of St. Martin of Tours, Ambrose of Milan saw and conversed with him while unconscious. Others than the papal clergy have tried to prove that the soul, by its hidden energy, can work marvellous cures on its diseased body. This secret energy of the soul is attributed to supernatural impregnation, and can be summoned by priestly intercession. The circumstantial accounts of cures wrought at the tomb of Thomas à Becket, and the not less marvellous ones at the tomb of Abbé Paris, which Hume refers to, and which Dr. Charcot, among others, accepted as real, were all attributed to a "Divine law." The story of Pascal's niece, who was said to be healed of a fistula by the touch of a sacred thorn, and Tertullian's account of the

behaviour of persons supposed to be possessed by demons when challenged in the name of Christ, were attributed to the same "Divine law." St. Paul, Baxter, and Bunyan ascribed a natural and mental operation of mind with its after influence on their lives to miraculous or "Divine law"; and St. Theresa, under the same persuasion, declared, when persecuted, that "her soul is then in its kingdom, and has all things under its feet." These are all very interesting in their way as fables and phenomena of cerebral excitation. Like the ghost stories of our early years, they were either got up for some economic or pious purpose, or had an origin as vulgar as that of all apparitions; and, crystallising in the passing of years, their real occasion is forgotten, and there is cherished only the delightful uncertainty and imaginary but mischievous glamour that fascinates the ignorant, and even bewitches many of us who resent their delusions. The human mind, at an early period of evolution, loves the fictitious more than the real, and would rather become entangled amid the bewitching phantasmagoria of a fitful dream than exercise itself to its disenchantment and deliverance from a dissipated fancy. We would not assert that marvellous cures have not been effected which seemed at the time to be directly due to an occult cause. Testimony to many such seems strong, and, in the absence of contradictory evidence, is entitled to some credit. But that is by no means an admission that they were supernatural phenomena, or in any sense other than natural and physical sequences easily accounted for, were the means of proving them always accessible.

Many modern scientific phenomena are more marvellous than the so-called miracles of history, and yet we do not call them miracles, but laws of nature understood and turned to human service. The word "miracle"

will soon be removed from its usurped position in phraseology as a word deprived of any intelligible significance. Scientific law, with its exact methods of knowing and doing, instead of a "Divine law," will in the near future be the only acknowledged worker of wonders and the natural revealer of mysteries.

The human organism is a complex mechanism so constructed as to perform specific uses to one's self and others. If by accident or disease an organ is injured or a function becomes disordered, or if, by departing from accustomed habits of temperance, our physical energies become impaired and threaten to collapse, nature will try again and again to resume its normal conditions, and, except for some hindrance, it will usually be successful. If the mind is sluggish, depressed, or unduly excited, as it frequently is in a condition of physical collapse, restoration is slow, sometimes seriously hindered, sometimes fatally arrested. But if some unexpected incident, perhaps of a startling kind, or some extraordinary but welcome tidings, were told to a person suffering under bodily or mental prostration, or both, the immediate shock might be so over-powering as to effect an instant cure or instant death. The whole nervous system might receive just that recuperative disturbance which would carry away all hindrance to normal operations, and so allow nature to assert its healing sway. There have occurred many such recoveries, and no sane person would contemplate ascribing them to other than natural causes. As a matter of fact, the most astonishing cures are known to have been effected by extreme cerebral excitation. This is a rational way to account for so-called miracles wrought by the so-called supernatural. There is no power to emulate matter—the power of matter over itself—the might of which is equal to its universality. If the spiritual could exist, it might be conceived of as

being influenced by matter ; but since it does not exist, it is inconceivable that spirit, or nothing, should master matter.

These terms, then, which we have been discussing are useful only to expose the absurdity of their intention. To be accurate or sincere is to be friendly with truth and the universe, whose friendship will reveal the truth and dispel mystery. "Human being," says Emerson,

is without bound ; that to be good, to the ever-perfecting of the race, he is born, low as he lies in limits and weakness. That which he venerates is still his own, though he has not realised it yet. *He ought.* He knows the sense of that grand word, though his analysis fails to render account of it. When in innocency, or when by intelligent perception, he attains to say—I love the Right ; Truth is beautiful within and without for evermore. Virtue, I am thine ; save me, use me ; thee will I serve day and night, in great and small, that I may be not virtuous, but virtue—then is the end of the creation answered, and the universe well pleased.

Intuition—closely related to "Moral Order," if it is not "Moral Order" itself in embryo—now comes before us for some notice. Reduced to its real significance, intuition is nature's inward attestation of our origin and identity with the external world. It is the sensitive plate of the mind. It would be the strangest of all strange things had we no intuition. Science, and therefore all knowledge, would be deprived of a starting-point did intuition fail us or refuse to assert our right to the freedom of the universe. It has been actively asserting that right since the first man darkly misunderstood its office, although ignorance and superstition have been more powerful as initial motions of mind.

Everything living possesses intuition, or knows responsively its greater part. All animal and vegetable organisms possess this function or its equivalent, as we have already tried to make clear. Intuition, instead of being a spiritual function or a sort of immaterial molecule introduced somehow into the molecular matter of

the brain, is merely a physical mechanical sense conforming to its function or office in the economy of nature.

In a previous chapter we endeavoured to show how the nerve-plasm of the brain, as an integral part of a system, is impressed and informed of all that is going on round about us, and returns these impressions or intimations interpreted through the same media by which it received them. We repeat yet again, that all cerebral motion is physical sequence-motion—eternally cyclic. Classify mental phenomena by all means, for thus a standard of comparison is obtained by which human progress may be measured; endow them with a nomenclature, for thereby men may be taught to respect a form of order; but let us be careful not to differentiate mental phenomena by selecting—without any reason—some, and attributing to them a supernatural origin and a divine supremacy over the others. Our senses in their normal condition refuse all commerce with the invisible. Let us know Nature, let us enter her courts and tarry there, and there we shall be brought face to face with existing truth—in her there is no ill. With the quest of the earnest inquirer and the attitude of the lowly student, she will hail us at her threshold, and in her imperial storehouses she herself will entertain us with truth everlasting. The pictures which thrill and rouse in us the fighting instinct in reading the doings and deeds of Pericles, Xenophon, Columbus, Bayard, Cromwell, Napoleon, and others, show us an aspect of ambition and devotion which, however admirable and useful they have been to the race, and remunerative to the actors themselves, are of minor importance and value compared with the discovery by science of those real truths and laws which illuminate the whole sphere of human existence, and control its life-

thought and action. Turning from the records of philosophy, travel, and battle, to read of the discoveries of Copernicus, Newton, Cuvier, Lamarck, Agassiz, Darwin, Haeckel, Lord Kelvin, and a host of other benefactors to the race, and realising the magnificent devotion to truth which these men and such as these have shown, and the vast, beneficent, and practical issues of their discoveries, one feels honoured in belonging to the human species. Even if their work ceased with their lives, it would be monumental; but the magnitude of the impulse which their discoveries have given to real knowledge can be measured only by the duration of the universe itself. Thinking of these men and their like and what they have achieved, we can anticipate for the human race a splendour of knowledge and an increasing intimacy with our universe through the means which they have bequeathed to us compared with which anything yet attained will appear insignificant.

Science has kindled a new dawn in the world, and the day of disclosure will afford little accommodation for the vagaries of theology to disport in. But it cannot be hurried—although it is time that the ancient myths of the ages that are gone were consigned to their original Erebus. A people may be too patient, too decorous with ignorance and clerical pretensions. Withering branches cannot too quickly be taken away from a tree that would grow and bear fruit. It takes heroes to invade venerable citadels of error like the Church of Rome, the English Episcopacy, and even the pertinacious Scottish Protestant Church. We grant them the credit of having been necessary evils in times when there was little or nothing better from which to supply the hunger of man for truth. At best they were temporary make-shifts, and their occasion has passed away. They have all the tenacity of the parasite, and their removal will be a process of much

difficulty—but their removal is certain. Truth is heroic, and like a hero it is somewhat slow to move, but when it does begin it grows with the might of omnipotence, and like an avalanche it is overwhelming in its course and absolute in its results. The hero will come, and has now come, though he may remain unacknowledged, and has begun his conquering way. He is everywhere when he is true to himself. Whoso is heroic will find his work. The crisis will be given him, and the laws of the universe will do the rest.

CHAPTER IX.

GOOD AND EVIL AS PAIN AND PLEASURE

THE subjects dealt with in this chapter might be regarded as the primary causes of the ethical or religious history of man. Unfortunately, the terms became early associated with a false significance, which, growing with man's growth, have marred human life and made it a thing almost less to be admired than commiserated. Pain and pleasure, or so-called good and evil, were not new phenomena in a new world, but are eternal in the universe. As much as sunshine and shade, are pleasure and pain nature's provision for the happiness of her offspring. They have been facts in operation in suns, planets, and systems, thousands of millions of ages, and ten million times these, before our planet swung into space. Without their intrinsic action, not as they are called—namely, good and evil—but as they were and are for ever, the cyclic sequence of physical action and reaction, neither our planet nor any one of the heavenly bodies could have come into being. The religious dogmas of Good and Evil follow in order for discussion "Moral Order," "Moral Sentiment," and "Divine Law." The doctrine of the "Freedom of the Will" is an allied subject, and shall have treatment further on.

The fallacious and mischievous theory of "good and evil" is based upon the equally mischievous assumption that man is bad—corrupt in thought and delighting in wrong-doing. Although the theory was said to be propagated by the gods, it is a godless theory. Of course,

for religion to be consistent, it is surely obvious that the material world itself must be intrinsically bad, since all living creatures born of it and in it are naturally vile.

The theory of man's free-will, on the other hand, strangely enough, had its inception in the inverse method, and implies that, although man is natural, and, therefore, under the bondage of nature, he is, as respects the freedom of his will, independent of it, since, being a free agent, he can choose or decline to obey nature just as it pleases him. It will be our task to show that both notions are erroneous and dishonouring. In a former publication¹ we gave expression to our views of "good and evil," and also of "man's free-will"; and, in dealing here with these subjects, we will take the liberty of repeating, when opportunity offers, one or two of the arguments therein used.

The perception of vivid contrast implied in the conjunction of the terms "good" and "evil" is intuitive, and, therefore, the voluntary response of man to a law in nature. Human society exists by the intuition that perceives, in the main, that no dead level is possible, and that in healthy action and interaction dwells the secret of all social problems. In proportion as the social organism is susceptible to the action and interaction of normal forces will it conform thereto; and in its right perception of contrasts, which intuition supplies, will there be found a standard of measurement of all progress. This form of measurement is as true and applicable to individual as to social and national being. The course of action suggested by a right perception of contrasts is the only right course, since it is that by which nature leads to progressive issues. There is another perception of contrasts which incurs individual and social loss. In

¹ *Lux Dei*.

the theologic idea of the contrast of "good and evil" ontology is disregarded, and a superficial and sentimental conception of these two function-forces is preferred. We have endeavoured to show that the consequences of this oblique mental attitude are disastrous. Thus, undirected by reason, and misled by a perverted perception of contrast, the faculty which would have directed humanity along sound and safe lines only impelled it to construct systems of faith and conduct which produced a harvest of sorrows instead of human happiness. Thus there grew up a variety of religions which to-day are almost co-extensive with the abodes of men, and in trying to follow which men's hopes and fears, their weal and woe, their present and future, their "good and evil," as dreaded monsters, continually confronted them because of their vitiated perception of contrast.

The denser the ignorance or superstition through which the perception of contrast acts, the more mischievous the resources that are applied to for relief against the fears and calamities presented to the ungoverned imagination. The greater the superstition, therefore, or the more fervent the unreasoning faith in a system that demands men's worship and fear of a jealous Superintendent of the universe, the more will their perception of contrasts be perverted, until it culminates in the most exaggerated fancies, picturing nothing too infernal at the one extreme, and nothing too supernal at the other. Thus the perception of contrasts plays a most important office in shaping the destinies of men. If true to nature, intuitive perception of contrast between "good and evil" would be as beneficent to man as the forces of resistance and attraction are in keeping physical cosmos a harmonious universe. While the necessity for perceiving contrasts must be perpetual, the aspect or

attitude of perception will undoubtedly change, and is changing at this moment—changing after a most wholesome manner.

Whether the theory of "good and evil" as moral or religious contrasts will pass quite away, like all provisional phenomena, and the universal law of regeneration and degeneration, symbolised in a most perverted fashion in the terms "good and evil," be accepted as the more accurate rendering, it is not our place to say. But it can with assurance be affirmed that the trend of mental development under the greater gospel of science points to a process of impartial elimination of the false from the real, the ephemeral from the permanent, the extinction of all mere religious sentiment, and a reconstruction of terms and the facts of belief. This is more confirmed by the attitude not merely of men of science, specialists, and scholars, but by the attitude also of the Christian world itself, which is regaining its long lost reason and honest eagerness of inquiry. That *fear* is the foundation of the sentiment, "good and evil," there cannot be any doubt; and that superstition, primarily under the form of ancestor worship or belief in ghosts, gave rise to worship and propitiation, is equally true. Fear and awe before the Unknown or unexplainable must have been at first simple and mere animal emotions, and of the nature of self-protecting instincts. Ignorance of nature-phenomena gave rise to the notion of a Power opposed to individual well-being, and that notion inevitably fashioned its counterpart. Thus we have the idea good and bad, something benign and something malign—*i.e.*, something assumed by primitive ignorance, which, gradually developing, crystallised into form and faith, and ultimately into a religious oligarchy. A cause has only to be found, and its effects, more or less differentiated by environment, must follow.

Find the origin of the idea of "good and evil," and the solution will no longer remain a mystery.

The origin of the religious sentiment is *fear*—fear in the infant human mind yet empty of knowledge and experience, capable only of the necessity of self-protection, and conscious of its helplessness. Any notion that could give help and secure from loss or injury, the infant mind of man regarded as its good god, which good god had his contemporary bad one. Thus primitive men thought that something was about them—now unfavourable, and again favourable and unfavourable combined. They knew nothing more. They were children in the dark, who, since they knew nothing, must imagine something—imp, fairy, demon, or family ghost. They could not understand death.

They seldom or never as a natural phenomenon witnessed it, either among themselves or among the animals they hunted for food. Savage man seldom died a natural death. Violence of some kind would almost always account for loss of life. In his hunt for food he would be killed or injured by savage animals, or die from starvation, exhaustion, or other accidental cause. If he recovered from injuries, he—*i.e.*, his life or spirit—would return to him. If insensible from any cause, his life or spirit was supposed to be elsewhere than in his helpless body. If he did not recover from injury, he was supposed not to be dead and lost to his relatives, but only that his life was stolen by an enemy; but it had escaped, and as a ghost or god was present beside them. It was in a world which they could not see; it knew more, therefore, and had more power, it was supposed, than those who were in the body.¹

Hence they revered it, prayed to it. Reverence for the ghost gradually developed into worship. The ghost became a god. Thus each family would have its family ghost or god, frequently in portable form, and the chief god would be the ghost of the village or tribal chief. Thus worship and ritual arose. Superstition consisted not in the mere belief in ghosts or gods, but in the acts

¹ Grant Allen, *Evolution of the Idea of God*.

of worship or sacrifice paid to ancestral ghosts. Briefly, this is the root-origin of the so-called religious sentiment, and popular religion itself also, and the notion of "Good and Evil."

The sentiments "good" and "evil," however, have their limits, and, like all phantasms, vanish when confronted with reason, and in proportion as the unknown becomes the known and natural.

As sentiments, "good" and "evil" have swayed men only less than the passions of love and hate. Within the poles of their extremes—*i.e.*, within the forces of attraction and repulsion—all emotion or passion has its ebb and flow, and the history of humanity has been made by human conduct impelled and governed within these two universal forces. This consideration of the terms "good" and "evil" should, we think, dispel from them any occult element, and show them to be that which they are—the normal laws of cosmos.

In the fertile and susceptible mind of the East, the sentiment of "good" and "evil," or the perception of contrast, had its greatest activity. Not only in Palestine, the cradle of the religion of the West, but also in Babylonia, Egypt, Persia, India, and China, the primitive and superstitious theories of "good" and "evil," with their occult contingents peculiar to their environment, held enslaving sway. Occult belief is more difficult to root up than truth or reason is to root in the mind; and, since it is begotten of the emotions rooted in the imagined occult or supernatural, it grips with the metallic grip of ignorance. Europe owes much to the Orient, with its old fervid mythology and passion for the occult and dramatic, for its superstitious and religious proneness and fantasies, its cruel creeds, and even for its sacred literature.

Much more than our own nation dreams of, our

twentieth-century religious thought and sentiment are the fruit of the capricious moods, symbolisms, and ghost-lore which swayed the mind of the primitive savage, and created for him a god out of his own ignorance and passion. The impassioned races of the Orient developed an ancestral type of occultism which became, by ethical sympathies hereditary in the Slavonic, Teutonic, and Anglo-Saxon races, who therefore became the successors to the mysticism of the East, although deprived of some of its savage picturesqueness and fascination. The almost unique genius of Jesus Christ was closely identified with the constructive humanitarianism of Buddha's teaching, for there was as yet no higher, if ever there will be. In their passage from East to West the Greek adaptations of Christian ethics parted with little of their Buddhist origin, but there were grafted on to the Indian original many of the vulgar superstitions of the ancient Chaldean beliefs. The reconstructed standard of life and conduct based on faith in the Galilean teacher, its attitude of adoration, its worship of the supernal and supernatural, its Grecian simplicity and grace linked to the lurid and tragic tableaux of Sinai and the horrors of Gehenna, fascinated the Western mind, since it would have a religion, for to the Eastern there was then no rival and no superior. The perception of contrast implied in Christ's "good" and "evil" has scarcely enlarged its vision since his definition of them. The twentieth century resounds still with the proclamation of a fall, the restoration of man from hell, his resurrection from the dead, and his after-life of perfection in heaven. These are the twentieth-century inheritance of a perverted apprehension of the perception of contrast under the symbols of "Good" and "Evil." The nations of the West are still dripping with the wash

✱ from the ancient surge of fear, superstition, and ignorance.

✱ A gospel, like a statement of fact, should be as simple and plain as truth can make it. Instead of being so, the Gospel according to Christ gives licence to unlimited speculation and mystery. Instead of being a universal standard of truth and conduct for all time, as it should be if it were a Divine revelation, it has split up Christendom into countless sectaries, each claiming infallibility. ✱ This is the certain issue of a perverted perception of contrast involved in a superstitious belief in a supernatural "Good and Evil." Why was the Christian religion framed in a language and a phraseology so utterly conflicting and disquieting? To what extent ✱ will the standard of Christianity change as the language of its nativity becomes more and more antiquated, and a more accurate perception of the contrast implied in "Good and Evil" is attained? That and kindred questions are in process of solution in the beneficent reforms initiated by science.

Human destiny is comic or tragic as the true ends of existence are misconceived, or when men are so ill-directed that they spend their energies in paying devotion to phantasies of their imaginations.

It is very sorrowful to think how pertinacious has been the belief that it is by *sin* that men gather the fruits of right-doing and right-knowing. There is a profound meaning in the legend of the serpent and the apple. In one sense Victor Hugo did not falsely celebrate the praises of "Satan the beneficent." It was at the Hebrew Satan's instigation that human discernment was at first aroused and rewarded by the first dawning of knowledge. It is to that mythic god, therefore, that the human race is indebted for its first start in *real* life. On the other hand, it seemed, according to

the Hebrew legend, the aim of the Creator to keep His offspring in perpetual ignorance of the real significance of "good and evil" by forbidding them to find out the true meaning of these natural phenomena—in the right perception of which the struggle of life is made contributory to human progress in any true sense. But the fable was current literature in Chaldea several thousands of years before a Hebrew was in the world.

Doubtless all legendary lore has a germ of truth hidden among its *débris*, but the not knowing it has been the reason for not finding it. Know the source or cause of the sentiments, "good" and "evil," and then consider whether or not these terms deserve the importance which they receive. These terms or distinctions doubtless arose in men's experience of two apparently opposing external forces, impinging on corresponding forces within themselves, thus producing impressions on the mind that pressed for some solution. But so slow was the development of man's primitive intelligence that, instead of an answer, impressions only grew the keener, and thus his emotions and imaginations—instead of his reason—obtained preferential sway. By slow degrees his perception of contrasts, intuitively sensitive to the forces within him and without him, began to long for some kind of interpretation and classification. Thus, by slow degrees, also, intelligence was fostered by observation and the constant pressure for solution of phenomena, as well as by the continual exigencies of daily life. By experience a superficial familiarity with external phenomena gradually paved the way for distinctions between external occurrences and man's own mercurial emotions of hope and fear. Empirical experience of gratified emotion became the barometer of the primitive human mind, by which all ideas of life and conduct were inspired. Thus the

faculty of perception of contrasts was acquired—very faulty, doubtless, but something gained. Thus while perception became very susceptible to external impressions, and able to distinguish contrasts, the intelligence could not account for heat and cold, day and night, pain and pleasure, hunger and satiety. Mental processes were dominated by emotion and appetite. But, as experience and the habit of comparing phenomena grew stronger, an intelligent facility to distinguish things would also increase. Differences in opinions, conduct, pursuits, motives, or fortune—as these affected individuals and communities, would be classified as popular or unpopular, hurtful or helpful; and so standards would come into use by which opinions and conduct would be suggested and regulated. At this juncture in the formation of society, "Moral Order," so called, or the most popular form of living conditions, would be prescribed as a social or civic standard of life. The basis of the "moral" idea, therefore, was obviously a social or civic expediency, grounded on a popular or unpopular estimate of individual or social conduct. In other words, *ill* to the greater number, as well as ill to the individual, fell to be regarded as "evil"—displeasure of the gods and their consequent vengeance; and *prosperity* to one, or to the many, as "good"—approbation of the gods with their attendant blessing. The one was found to be *adverse* to prosperity, and therefore fatal to the common weal—a blight and a curse; the other was found to *win* well-being—a good and a blessing; the one was constructive, the other was destructive. Thus the standards, "good" and "evil," were erected, and remain, unfortunately, to this day, more or less, standards still. The terms "good and evil" had no meaning till communal life began.

From beginning (if we may use the word) to end, the

process was evolutionary and irresistible, and adaptation prescribed the forms which the process assumed.

Mr. Balfour, in the new edition of his *Foundations of Belief*, says:—

Study of evolution and modern anthropology is making us realise that the beginnings of morality are lost among the self-preserving and race-prolonging instincts which we share with the animal creation; that religion in the higher forms is a development of infantile and often brutal superstitions; and that in the pedigree of the noblest and most subtle of our emotions are to be discerned primitive strains of coarsest quality.

The terms "good" and "evil," then, possess in themselves no "spiritual" significance, nor even a "moral" distinction, in the ordinary religious sense.

"Moral" and "spiritual" were mere addenda, conceived by priestly ingenuity, chiefly for hierarchical interests. Their true significance is for social and utilitarian ends. One stood for the beneficent in nature and man; the other stood for the hurtful. The perception of contrasts between these two at issue determined the setting which the terms "good" and "evil" took thereafter, and which crystallised into a religious dogma of belief—the overpowering affliction of human existence.

Their inception was occasioned by observed but uncomprehended phenomena of cause and effect, or, as we have substituted for these terms, cyclic sequence. Almost unconsciously, men would at first, and for a length of time, conform to nature's forces by adapting the most accessible means to ends, as men still do, with this difference, however, that the original and sub-conscious effort to respond to nature has now become a conscious though a grossly perverted routine. The simple words, *best* for one and *worst* for one, have become the theologic symbols, "good" and "evil"—the one indicative of conduct pleasing and acceptable to God,

the other of conduct displeasing and repellent to Him, as though a perfect Spirit could be influenced by the emotions of infinite regard and infinite abhorrence, or perfect love and perfect hate. Ignorance of the laws and constitution of matter which brought forth countless forms of superstition always sought, but seldom found, even temporary solace in its numberless cults and faiths. The solace was like the ocean, calm, ephemeral, and treacherous. Such ignorance was subject to violent fits of curiosity or inquiry, and found but fleeting relief in wilder and still wilder superstitions, which only left the imagination the more inflamed and the reason the more overcome. The unrest and weariness of existence which the world felt in the brief intervals between recurrent outbreaks of religious fanaticism were merely the melancholy evidences that human nature was being violated in its highest function—its reason and its right to reason.

* Ignorance, however, must be the beginning and incentive to knowledge, and superstition must be the herald of reason; but when knowledge comes, and reason takes its throne, it is fit that the faulty beginnings should pay homage at the feet of their nobler offspring. * * *

After prolonged and weary centuries of struggle reason is now beginning to find a solid footing in human existence. It is beginning to comprehend why it is, and for what it is, and to recognise its identity with the function forces of nature and the universe.

It is finding out that its function is to lead men into ever larger capacities of being; to give them a true vision and a wider understanding of the universe whose they are. As the electric current rightly directed becomes a luminous light before which darkness hides, making nought of distance to articulate in the world's ear the world's want, so reason upon its throne becomes

the luminous light of human life, in the sure radiance of which men may walk in safety and behold the order and the meaning of existence. Reason needs no legendary aids, no priestly tutelage. Instinctively it shuns them. Men are seeing less darkly into the universe from which mystery like melting mist is changing into light. It is being known now that in the universe there is no mystery that the disciplined reason of man may not find out and understand. Universal matter can be heard in the voice of science articulating—there is no mystery in me! The things that appeared to the infant minds of men inequalities and contradictions, unknown quantities, good and evil, heaven and hell, are found to be incomplete and erroneous impressions recorded on the brain, the perturbations of passion and fear. Men's minds in their infancy could not reach, and have not reached even now, the full meaning of material phenomena, nor could they define cosmic unity and the complex relations of material forces. Men who did not know themselves could not know their own origin, and therefore could not truly know anything. Knowledge of one's self is the only legal passport to the pantheons of nature. As a stream goes to the ocean of which it is part, so knowledge of self must seek and find the secret of its mightier self in the infinite material universe. The entire theologic conception of "good" and "evil" as representative symbols is totally and irretrievably misleading, except to those who know their real physical and eternal significance. Reduced to their ultimates, "good" and "evil" stand for chemical aspects of matter in motion—namely, regeneration and degeneration, or action and reaction—potential operations that are inherent in matter. In short, Darwin's *Survival of the Fittest* is the sequence of the action and counter-action of the forces called "good" and "evil." That which is no longer fit

to aid in the struggle for progress may fitly be called *evil*, which Nature must remove from her onward way, or reconstruct for further usefulness. That which is fit and survives to secure continuity and eternal progress may fitly be called *good*. But it must be borne in mind that the unfit and the fit are alike eternal. Progression is the only good under whatever forms it appears to us; and retrogression or reaction is the only evil whatever may be the forms which it assumes. Hindrance is only seeming, for that which is called hindrance is merely the negative action of onwardness. "Good" and "evil," then, as such, have no existence. Their ethical or religious existence is only a mental delusion occasioned by a misinterpretation of natural and normal phenomena. What we call virtues and vices are the forces of matter passing along a life. They change their name according to the direction in which they go: to the left they fall into the shallows of ugliness, selfishness, and folly; to the right they climb to the high lands of nobleness, generosity, and intelligence. They are good or bad according to what they do, and not according to the title which they bear.

In *Lux Dei*, p. 31, we say:—

The difference between the act of a man who commits murder and the act of a lion which tortures and kills its victim is, that a man does consciously, and for some perverted reason, that which a lion does—consciously, of course, but chiefly from hunger, self-defence, or revenge, which is a lion's only law of life. The act of the man and the act of the lion is the sequence of an identical emotion—namely, lust of prey—a natural and right instigation. But man's keener perception of contrast makes him more wary and crafty. He knows that his original lion-like lust of prey—although his primitive law of life—modern civil and social conditions have made a criminal offence, and therefore he must adapt his primitive instincts, right in their real nature, to modern methods. He must gratify his wants according to civil standards. Yet man is not always deterred from doing that which the lion, whose life conditions remain unchanged, does without blame. Man's knowledge does not exorcise his murderous propensities. He knows clearly that his country's

law and his lust will have a struggle, and the fittest will survive; and he prepares himself and takes the risk. The lion knows only through his sense of fear that his victory may be revenged, which, when the time comes, will issue in his own or his antagonist's defeat—the fittest then also will survive. The lion does no wrong, nor would the man do wrong were he in his old conditions. Environment makes all the difference between man's idea of right-doing and wrong-doing. The law of life for the one is also the law for the other—the methods only are altered. All human action is done between the poles of what are called right-thinking and wrong-thinking, or right-doing and wrong-doing. The wrong so-called must needs be done, that the right so-called may have the occasion to do.

When the right is done there is also, and always, the proportionate reaction—wrong. This is the eternal, inalienable law of the universe!

Branching from this discussion of "good" and "evil" there naturally follows the question—what relation have pain and pleasure to life if there is neither "good" nor "evil"? Are not pain and pleasure the sure, if not the immediate, consequences of good done or of evil done? We answer, "No."

We have seen that "good" and "evil" are mere natural forces which issue from antecedent sequences, which have all the authority of law, and never part with their consistency, which the necessities of existence conserve through eternity. Pleasant and unpleasant sensations, or pleasure and pain, can always be traced to constructive or progressive operations, characteristic of all existence. The operations of spring and summer upon the winter earth resulting in bud, blossom, fruit, and harvest, are constructive, and we call them beneficent operations.

The opposite or painful results—quite as important as the others—proceed from the same type of sequence, but diverted in an opposite direction; and, though not apparently or directly constructive, they are not directly pleasant, and may be painful. Pain implies incomplete balance.

The operations of autumn and winter on the summer earth are not immediately constructive, for decay and degeneration must first ensue, and these processes cannot, in a true sense of the term, be called either pleasant or beneficent. Yet winter is as much the sequence of summer as summer is of winter, as essential to cosmos and as inevitable a course of nature as summer is.

Neither pain nor pleasure, therefore, is indebted for its cyclic processes to a supernatural ordination, or in any sense carries a supernatural significance. Pain, as well as pleasure, is the mechanical issue of operations that are intrinsic to matter in chemical action. They interchange in cyclic exactness and sequence—the one as action, the other as reaction. No form or condition of existence is capable of any alternative but to conform to the operations of the whole, of which it is a part, and to which it must contribute by its fact and act of being. All motion is in perpetual ebb and flow; and the two opposite forms of motion must have two opposite, but not hostile, resulting phenomena—the agreeable and disagreeable, or the pleasant and painful.

Again, mental sequences depend for their manifestation on the susceptibility of organic sense and its fitness to impress the brain, and the brain on its chemical or functional fitness to receive sense-impressions and interpret them into conscious relation with the universe. Consciousness itself is the sequence of the action of the chemical affinity of sense-impressions on the brain with external things, and is thus a physical function developed by the necessities of existence.

Pain and pleasure, therefore, or their ethical equivalents “good” and “evil,” are purely physical phenomena, and demonstrate the interaction and abiding unity of

all conditions and forms of matter. Susceptibility to pleasure and pain is in proportion to the vital keenness of the nervous system in contact with external phenomena, of which the brain is the indicator and recorder. Inorganic pain and pleasure—for motion in the inorganic denotes at least *genetic* sensation—are determined by their mineral or chemical affinities. The susceptibilities of the organic are no higher in kind than those of the inorganic, although greater in degree, and are no more to be traced to the supernatural than those of the latter. Relative position in nature, environment, and physical chemistry wholly account for the degree of organic and inorganic difference or susceptibility to constructive and destructive processes, these being the equivalents of pleasure and pain. It should not be very difficult to understand how pain and pleasure are merely chemical phenomena absolutely dependent as sensations on normal brain action. The notion that they imply a supernatural ordination, or a conjunction of spiritual and material elements with exclusive reference to man and his supposed immortality, has no more reality than a midnight dream, and is unworthy of human reason. To be consistent, immortality should not apply exclusively to individual man, since, with precisely as much reason, it should include in its scope inorganic matter as well as all individual organisms.

Neither pain nor pleasure can ever be dispensed with in a universe of perpetual change. They are as essential to existence as diurnal motion—they are, in reality, forms of that motion. The effect of their interaction is, that they develop alternately in every creature and thing those qualities of adaptation to environment which, in the struggle for life, secure the survival of the fittest. If we apprehended with an unprejudiced mind the supreme fact and office of cyclic sequence in its relation to

universal being, we should in a very short time arrive at the conviction that pleasure and pain are not merely universal, but that they are also essential, intrinsic, and purely physical. Thus pain may be simply defined as the impact of negative motion against positive motion, resulting generally in the subjection of what is obstructive to pleasure. In collision, these forms of motion cannot be simultaneously felt; one or the other must supervene. There is no escape from experiencing them in some form. Nothing existing is excluded from their equivalent action. They are the cyclic sequences of universal integral forces at work which, with other complex functions of matter, hold the universe together.

Railway accidents entail much suffering, but their issue, as affecting the public, by the preventive measures which follow, secure so great an amount of pleasure and safety to the millions who daily travel that they actually form compensations transcending, on the whole, the pain and loss suffered by the fewer number.

Vaccination and vivisection have been of vast benefit to mankind, notwithstanding the pain and occasional death which they entail. Epidemics are melancholy and painful necessities, but beneficent in their issue.

Amputation of a limb may be necessary to preserve another, and even life itself. Pain is the thorny road to pleasure—the fire that brings heat and comfort, although it brings also suffering and death.

* Pain and pleasure, then, are concomitants of matter—the two extremes of vital action, related like heat and cold. They are neither moral nor spiritual, but the physical issue of collision determined by cerebral
* action and reaction on environment, habit, training, and heredity. They may not be invariable, since the one may change place, so to speak, with the other, as
* do negative and positive electricity, and, in different

individuals, become transposed. But the equilibrium of organic happiness is secured only by an equivalent degree of pain. Extremes of either signify abnormal nervous action.

There is a case on record of a young medical man, George Dedlow, who, during the Civil War in America, became a captain in the 79th Indian Volunteers. In the battle of Chickamauga, 1863, he lost all his limbs; his arms were amputated an inch or two under the shoulder, and his legs at the thigh. He gradually lost all consciousness of his lost limbs. He had lost four-fifths of his weight, and, as a consequence of this, could eat and sleep less, for sleep is the repose of the brain made necessary by the waste of its tissues during thought and voluntary motion. In place of his heart beating seventy-eight times in the minute, it pulsed only forty-five times in the same interval. Notwithstanding, his physical health was good. It is said that a burn of two-thirds of the surface destroys life; yet there was he, having lost at least one-third of his skin, and apparently none the worse for it. But he found that he was getting often less conscious of himself than he used to be—so much so that he constantly felt like asking someone if he were really himself. It was a deficiency in the egoistic sentiment of individuality. The great central ganglia which give rise to movement in the limbs were gone. One half of him was functionally dead. He found that his loss of relation to the outer world was capable of destroying his consciousness of himself, and the destruction of half of his sensitive surface diminished his sense of individual existence. A man is not his brain, but all of his economy; and to lose any part must lessen the sense of his existence. As to the nervous system, the only parts necessary to life are a few small ganglia; and, were the rest absent, we should have a man reduced to the lowest terms, and leading almost a vegetable existence. The fractional entities of vitality are embraced in the oneness of the organism. Life might be termed the stored condensation of objective impressions, and the objective is the remote parent of the subjective, and must undoubtedly suffer and fade when sensations become destroyed.

We regret having forgotten the source of the above episode, but even in this recorded case suffering and awful loss had their polarisation in the pleasure or compensation of comparative unconsciousness.

CHAPTER X.

FREE-WILL

THE discussion in the previous chapter concerning pain and pleasure suggests and leads up to a consideration of the doctrine of man's free-will.

This doctrine has absorbed disputants in the intellectual arena—"gratia et contra"—since theory and philosophy began; and the result is that neither theory, philosophy, nor religion has solved the problem whether man's free-will is a fact of supernatural origin or only an opinion grounded in superstition and ignorance of cyclic sequence.

We propose entering the arena—which is open to all—for truth's sake only, hopeful that our honest contribution may help, along with the revelations of science, to simplify the task of solution, which task will be finally achieved by others in a time not far off. A final settlement will come; and then, and not till then, will the last mental manacle that represents the bondage of civilised men to a superstition be permanently removed. Then will men see that their highest freedom consists in the *consciousness* of their inseparable relation as parts to the universe, and, as parts, that their will and their work are integral contributions to the eternal fact and order of existence. As we have said, the discussion of free-will naturally falls within the scope of the subjects with which we have been dealing, and it would be necessary to deal with the question were it only a polemical detail.

A misapprehension, it seems to us, of the etymology

and conjunction of the words "free" and "will" has led to much profitless discussion. The word "*will*," detached from its prefix "*free*," has been largely, if not solely, responsible for the conflict of opinion. The dispute rages round the word "will," which is indebted to religion primarily for its origin, drift, and crystallisation as a dogma. As a dogma forming part of the creed of Christendom, Free-will is indebted wholly to theology for its false position—the foundation of theology itself being no firmer than that of shifting sand. Its importance is just what its origin and structural environments have given to it. We will not waste time, therefore, in discussing the subject as it is related to theology, but will confine it to ontology, or the science of being. Theology is still so enamoured of its own fecundity, of which the doctrine of man's Free-will is a special offspring, that any appeal to its saner mood for unprejudiced discussion is for the present useless. Besides, the humility of faith is of so peculiar an order that it is no light task to find out whether humility is the product of faith, or faith is the product of humility.

Will-power defined at its human source is not individual—not the evolution or creation of a new force, but the adaptation of an eternal force to an integral or organic part of the whole. It has to do with evolution only as a sequence of matter-motion, the highest known manifestation of which is that supremely sensitive organ, the human brain. It has been already shown that the human brain is organised matter, and that every form of matter has its own intrinsic order or attribute of motion, which is, without any exception, characteristic of all matter. All organisms and organs bring with them the germinal functions which develop with the development of organisms and their organs. They therefore necessarily inherit from the whole, in proportion

to their office in existence, or in embryo, the forces of the universe. These forces, we have shown, are supreme, although they are decentralised in the infinite parts of the universe. We have shown also that they do not belong exclusively to any one of these parts, since the parts are perpetually changing—*i.e.*, they are perpetually losing their definite or individual forms in others or for others, according to universal need. All the infinite parts, as in a perfect system of mechanism, conform to a cyclic supreme force.

Will-power, then, or *universal* power, is just the energy that is common to all forms of matter, and which cannot be usurped to the loss of any unit, since every unit of matter is dependent on and conformable to the whole. Will-power, so-called, is the motive-movement of a universal republican and material system. There is nothing super-physical either in its adapted media or in itself. Neither had a beginning, and the one is but the extension of the other. Thus human will-power is an abridged form of universal energy conserved and matured in cerebral reaction through *sense media*—the function of that supreme and subtle energy which takes in man the form of mental propositions.

Universal energy, as we have observed, has infinite modes of operation, but it has no sphere outside of matter, since to be outside of matter is an impossibility—so says human reason, at least. Human will-power stands in the same relation to the brain as all other functions. Every organic movement is a nerve or functional reaction of externals. But all media are subsidiary. They are agencies of an eternal cyclic system, and perform their office, not on their own initiative, but by the impact upon them of a universal, irresistible energy. All momenta, therefore—will-power included—are but the detail of this infinite energy; and

mind itself, or brain function, is a derived and subordinate instrument conformable to external vicissitudes. Without waiting just now to define the relation between mind or intelligence and will, we would here only remark of both that they have no functional value in themselves, but merely as instruments of the brain—the brain itself being simply one organ among the infinite others of the universe. Mind and will are not organs, but functions of an organ which is an aggregation of material units, and therefore subservient or auxiliary to the general scheme of existence.

In a previous chapter we dealt with mind as a purely physical phenomenon. It is not necessary, therefore, to repeat here what has been said on that subject. We have also discussed, to the best of our ability, the nature and office of the brain, its relation to the senses, and their relation to external matter.

We have shown that matter, *per se*, secretes eternal energy—is, in fact, that energy in demonstration—not in any local sense, but as the constituent of the universe, thereby securing unity, place, and motion to every particle of matter. As all matter and matter-functions are the universe in infinite distribution, and as energy is the demonstration of matter in motion and form, it follows that there cannot be any self-acting parts or units, whether these are human brains or human minds or wills, or any other form of matter. Every part of matter, in keeping with its place and use in existence, whether it is organic or inorganic, has the function of motion, or a power of movement which is the equivalent of the will or conforming power in man, and shares with man, as a constituent part of the whole, in the work that shapes the destinies of eternity.

Independent action of parts, besides being impossible *à priori* or constructively, would be impossible *à posteriori*

or in continuity. Continuity or permanence of parts is secured by constituent unity; and that is only possible as regenerative processes are conserved by chemical action and reaction. The continuous supply of the part is the provision which secures to matter its consistent unity and permanence. Motion, therefore, is not delegated exclusively to any special form of matter. If that were so, it would imply that there would be matter that could be unaffected by its environment, and which would be inconceivable as forming a part of a living universe. Moreover, it would imply danger, if not chaos, since alien matter would be deadly to stability.

Every part of matter finds its place and function, and acts and reacts on its environment in the order of cyclic sequence. Thus we have that infinite variety conserved in the eternal stability and grandeur of the universe which secures desire and joy to all normal existence. Will-power, or mental motion, being a form of material energy, is at no time and in no degree separable from it. It cannot originate its own motion nor prescribe its own course of action. Having no power of self-motion, it cannot even possess the function of a delegated power, but is only the continued, or cyclic, motion of the eternal whole. It has no claim to individuality—no more, and just as much, as any relative part of a complicated mechanical system. Each part is impelled by another relative part, and all the parts move in concert to complete the mechanical unit. The issue of the parts represents the total issue of the concerted unit. As well expect a wheel belonging to a complex machine to work by itself as an organism, as any part of the material universe to prescribe its own motions or conditions. All forms of force or motion, then, represent the integral or federated energy of the absolute

entity. Thus, will, far from being a cause, is a *detail* of motion that is infinitely complex.

If, instead of will, the word sequence, or motion, were used to denote "free will," we would get on the line of its true relation as a *part* of a universal whole, for we would be able by this substitute to perceive how one form of energy waits on another in cyclic sequence—*i.e.*, will-power waiting on cerebral motion or mind, and mind waiting on cerebral impression—the latter on its susceptibility to external contact; while the external waits on the universal, and the universal on its own absolute energy.

It is startling, at first sight, to be told that to make up our minds to do a certain thing, or pursue a certain course which may have been in our intention in a vague or nebulous form, is not our free motion, not our free will, but the cyclic sequence of a conjunction of many influences upon the mind or brain, and all hingeing on the universal energy. These influences travel round the circle; they come into us, and pass through us, changed and changing at every impact with matter; going therefrom in cyclic sequence, ever changing, never ceasing. Thus, the universe is complete and absolute, concerted throughout in form and motion.

The theologic, or superstitious, postulate of a supernatural or Spiritual Will as the Absolute Energy we have already examined, and were forced to conclude that it is only a resource of ignorance resting in superstition. But we would again ask here, How can a structure of belief be built upon an assertion that has only superstition to rest upon? Is it on record that any person, or persons, have ascertained what a Spiritual Will, or Being, is? Can they define it? Has it a constitution, structure, limitation, organs, or conditions of any intelligible kind, and, if so, what are they? Have they verified

its authority, its procedure ; beheld or touched its personality, or such living conditions as are implied by that term ?

Until we have a definition resting its authority, at least, on some approximate knowledge of the certainty and sovereignty of a Spiritual Will, our reason must refuse to accept the supposition which, wanting confirmation, can only have the value of an ancient pictorial mythology.

All attempts to construct something out of nothing must end in utter failure and confusion of thought. If will-power, or energy of matter, is impossible of subdivision, and all forms of energy are only aspects of an indivisible whole, when, or how, can a mere aspect, or part of a whole, be entitled to be called self-acting or free, except in the sense that it is free as the whole is free, or as a cyclic sequence applicable to all creatures and things ?

Again, cerebral energy or will-power, as we have shown, is increased or diminished just as correspondence with the external world is sustained or diminished, and the increase or decrease is controlled by the chemical operations that are perpetually pulling down and building up old and new forms of matter.

Men, as well as all lower forms of life, are sequences subject to the laws of sequence. They are, therefore, in no sense controlling beings, nor can they be regarded as causing, but only as conforming and communal phenomena. A man cannot choose either where he is to be born, or his hereditary trend or type, or even finally select his occupation, his place of abode, or his time of death. His seeming refusal or acceptance is the acknowledgment of cosmic need that fixes his orbit of thought, and work, and destiny, just as it fixes the position of a star or the channel of a river. On that

account, even if there were no other external forces constraining him, a man is *not free* to choose his environment or transform his type, both of which, in the main, determine his habit of life, and, therefore, his thought and action. Of course, these are subject to modifications—not, however, of his own choosing or creating, and never of his independent action. His will-function is not something which he makes: it is conveyed to him with his being; it, or rather his complete organism, is an integral and intrinsic part of an absolute system.

Were a man's volition self-acting, it would be self-begotten. As man—not a fraction of him, but the entire man—is a product of matter, and cannot, in the very least degree, be released from the forces of which he forms a part—forces which evolved his individuality, and will remove it—he cannot be capable of originating a thought or act, since that would mean the creation of a new force, but is a working part of a complete interacting system whose infinite parts constitute the universe. Every mental motion presupposes sensation and impression conveyed to the brain. The kind of impression implies a specific sense and a specific message; and the reaction or return expression, whether in word or deed, is just what the external impression was, with a new interpretation. Again, will is so bound up in sense, so identified with it, that, apart from sense, an act of will is impossible. To make a distinction between will and desire will end in a fallacy, since any distinction must be conceptual; the energy of conscious life is not concerned with it. The two terms are convertible according to their subjective attitude to objective cause. When will is resisted it becomes desire; when desire becomes will resistance ceases—i.e., energy is cyclic, intrinsic, unchangeable, both in progressive motion and in retrogressive reaction. Will-power, therefore, is conditioned by

external operations, and these impress an organism for whose original trend no one is responsible. Character is just the individualised or concrete form of external forces which have passed through a human brain. Desire, as much as physical characteristics, denotes ancestral type. Heredity conveys a formative desire, and is the chief causality of what a man is, though it may be modified or intensified by environment. But heredity and environment are the productive and potential occasion of what a man is. Man is not "the sport of circumstances." The least detail of being, even to the displacement of a grain of sand or the fixing of a holiday, is subject to physical or material laws that are inexorable. Our conditions are determined without our choice. Our motives to action have no beginning, and can have no finality. We are not what we do, but what we are induced or compelled to do; and that which we think we freely choose to do is that which a chain of sequences compels us to choose and do. When it is remembered also that character is not so much individual as public property—that a man does not belong to himself, but to his species—it follows that, as the part is less than the whole, and therefore a subjective quantity, it cannot in any true sense be affirmed of human will that it is free. The variety of will in thought and action is conditioned by the same formative processes that produce variety of type or species in the vegetable and animal world.

Of will-motion, if accurately traced, it will be found, first, that organic heredity or susceptibility and contact with external objects and forces are its immediate motor; and, second, that the attitude and type of these in their contact with the senses, and then upon the brain, convey the impressions that determine the texture of mind and will-motion. And as objects and influences are perpetually changing and interchanging, modifying or

magnifying hereditary tendency—which is all that a man brings into the world with him—the sequence is not individual will or individual character, but the concrete reflex action of antecedent sequence upon an adapted organ, and, therefore, common property. — If we may be allowed to use the expression, the issue is just the mental consensus of these combined external and complex forces. These external forces, like so many related tributaries, meet in an individual brain, are there chemically transformed, and issue thence in a condensed form of motion; but to affirm that this condensed motion is free-will is, as we have tried to show, quite inaccurate. We repeat—the brain is the head centre; it receives, translates, and condenses all correspondence from outside, and despatches replies under the form of thought, speech, or action—all these, as well as all other forms of energy, being purely mechanical. In an analysis of the doctrine of the freedom of the will it will help to a correct solution always to bear in mind that nothing can be for us an object of real concern, except as forming an integral part of the oneness of existence, of which man is not the least important unit.

All organisms involuntarily conform to the forces that environ them—the greater rules the less. Hence the important place assigned to the human organism as the chief product of cosmic operations. In this planet it is the first of objects—the apotheosis of material energy. While there was no preordained design in man's advent, which was the evolved sequel of mechanical operations, he is, nevertheless, both the index to and the interpreter of those operations. He is the channel or focus through which the phenomena of existence come within the scope of his consciousness. As the most susceptible co-relation of nature, the human organism further serves as an instrument for detecting and exposing the phenomena of

fantasy from fact. To detect and dissipate hallucination we have but to understand the fact of our bodies and their cosmic functions. Thinking and doing gave rise to the term "ego." While ego, as we will try to show, has no real existence or individuality as an entity, the use of the term assists a conception of what it signifies. Ego, or consciousness which knows, is merely the co-relative of the known object—i.e., the object perceived and the subject perceiving are not two distinct existences, but one existence perceiving one fact between two poles of action. What are called the "several faculties of the ego" are the inferences from the several kinds of brain-impressions received from co-related matter.

When ego says *I know*, there is implied organic receptivity and perception of that which impresses it. When it says *I will*, there is implied a perception of the first real fact of conscious existence. In this *I will* there is, therefore, a perception of the unity of the will-function with the knowing function or consciousness. This identity of the willing with the knowing has only to be carefully studied to be accepted. Moreover, as we have said, these are not *two* streams of motion running each in its own channel, but tributaries of one great stream—namely, the universal energy coursing its laws through all its infinite parts.

What to our inner consciousness, therefore, is volition so-called is, to the outer perception of sense, only organic motion or susceptibility to our relation with the external world. As each act of will implies an antecedent motion of the organism in response to some external action, freedom of the will is a fallacy, since the action or volition is merely the reaction of the organism—not of an entity, or function of an entity. The consciousness that my body is merely my will objectified, or my will translated into cosmic action, is a great truth. A

discharge of electricity during a thunderstorm, or a hurricane that makes the sea rampant, is as truly a free action—*i.e.*, it bears the same relation to the physical laws which brought it about—as the free-will thoughts or actions of men bear to them as men. Free-will is a link in a cyclic chain of motion whose orbit is the universe, and whose scope is infinitude. Existence may be likened to a scheme of co-operation, in which, consciously or unconsciously, every separate thing follows and fulfils the requirements of another thing rather than its own. Thus doing, its own needs are best met and communicated to others as continuous obligations.

Again, a change of nutrition, it is well understood, effects a change of will. Habits, also, consequent on a change of nutrition, produce variations in form and structure, and these, with the countless other external and constructive forces acting and reacting on the brain, have their inevitable issue in cosmic will-action, which, in other words, is the consistent aggregate sequence. It is well known that persons undergoing close confinement in a prison not seldom become partially paralysed in their will-function—sometimes entirely so, in consequence of their almost complete isolation from externals.

It is well known, also, that training and a course of military discipline will produce, out of an inconsistent multitude of men, an almost perfect mechanical unit, which will move as one man at the word of their superior. And even the command which, coming from one man, a body of soldiers will spontaneously obey, is not the command of one man's "free-will," but is the nation's summed-up in its military officer. Moreover, the nation's will is fashioned, not by choosing fitfully what, or when, it likes, but its choice is compelled by events which it can neither anticipate nor escape. Morning and evening are not more the sequences of an infinite

succession of antecedent sequences than are our brain-impressions, flashing thoughts, and answering wills.

"How, then," it will be asked, "is it that I am conscious that I can will to do and can will not to do?" That is a statement which, like many others, is true in form, but untrue in reality. First, and shortly, we answer, because cerebral motions must conform to external impressions, and the force or will that reacts under the form of thought or action is the exact and inevitable sequence. The individual will, therefore, is the evolution of exacting universal forces. The idea that a person can will and refuse to will just as he or she chooses is only an idea, not an act, but a motion in response to a motion originating from without. But secondly, and more fully, in a previous page we endeavoured to define human volition as a function, not an organ. It has been an error, we think, which has led to much confusion of thought respecting the doctrine of the freedom of the will to regard the will as an organ. An organ can be acted upon only through the senses which act as sentinels or reporters, whose office it is to perceive and report what is in touch with them externally. These sentinels report a great variety of transactions derived from as great a variety of points of contact. These reports are thus extremely complex, sometimes even hostile, or apparently so, to one another. The brain has to differentiate between these messages to it. Some highly-exercised brains can perform that function with great rapidity, others less rapidly, and others, again, at considerable cost of effort. In every case the result is a chemico-ethical product involving much complexity of detail, whether conscious or unconscious, to the individual, since, for no other reason, there is a perpetual tide of reports to the brain demanding attention.

As the ebb from the brain is—seemingly at least, and we think is really—less than the flow to it, there must always be a large accumulation of energy waiting to be dealt with. This is evident in the fact that, without any immediate contact of the senses with externals, the brain goes on, even if the eyes be shut, working, thinking, and discharging—chewing the cud, if we may use the term. The brain must rid itself of the inflowing tide, and it does so because it must, and because the external world which supplies it with work awaits the outcome of that work. Thus, as the brain deals with and responds to the reports from the outside world—consciously in thought, word, and action—as the only course or alternative open to it, the idea arises that it does so of its own accord. Hence the idea and phrase “free-will.”

All the time the brain or mind is obeying and conforming to a material and universal law of action and reaction. There should be little surprise, therefore, when one is heard to say, “I will do it,” or “I will not do it”—“I will think so,” or “I will not think so,” since it is no more than the conscious answering or conforming motion of the mind to external impressions. Feeling the motion, and without waiting to trace it in its flow, but only in its ebb—not condescending to analyse it—it comes conveniently and flatteringly to us to say: “We have a will—we feel it—we can exercise it—we can do as we choose,” as though it were a common possession and faculty. We are so constructed that our mental motions feel free—seem as though we had control over them; but they are details of a great system, of which our will is a mechanical function.

Again, there is frequently a suspension of volition, which is relaxed only when a motive enters the mind. The motive is not occasioned, but communicated—not

created by the mind, but is a pre-existent sequence finding its right course, and the mind bends to its supremacy. The part cannot decide against its greater self. All sections or parts of cosmos are as much a whole in their relation to the universe as the stones in a building. It would be easier and infinitely less perilous to displace a stone from its position in a complete structure, or take down the structure itself, than to displace an organism from its cosmic relations, or arrest its functions as an incorporate and dependent mechanical part of an integral universe. The former is possible, the latter is beyond the possible. The human will, therefore, being a constituent function of the human organism, cannot be displaced from its office, and cannot be independent either of the organism or of the forces of the mighty system of which it is a functional part. If it were possible for the human will to assert its self-dependence in the minutest way, there would be no assurance of the unity and continuity of existence. "Free-will," then, is merely an indication of the established order of the universe, which comprehends the smallest detail of motion within its infinite sweep of action. The human mind—or the seat of all human action—is a material function in inseparable coalition with the forces of the universe. The apparent freedom of the will to do as it chooses is nothing more than a stream of cosmic energy, which courses through all forms of matter—which science calls the law of evolution—conforming and transforming all organic forms along the line of least resistance. The freedom of the parts, or functions, to respond and conform is, therefore, the physical proof of their absolute incorporation in the destiny of the whole. A faculty which the human organism cannot in any real sense lay claim to, which is a corporate constituent of the universe, cannot be possessed by any part, or by any individual

personality, such as is implied in the idea of a Supreme Being.

We have endeavoured, guided by law and reason, to establish our premises, appealing, when occasion required, to material facts as evidence and proof. From all that has been advanced, whether as facts or reasonable theories, the conclusion is obvious—namely, that to whatever stage the possibilities of evolution will carry the human organism, it will never be able to detach man from his identity—present and ultimate—with matter and all forms of life, or convert him from being a natural into a supernatural being.

If ever a period could be reached when the forces of universal matter had exhausted themselves; when evolution ceased, and matter had become a boundless drift; when brain molecules vibrated no more to the touch of a living world, and thought had ceased to flash; when orbal music had hushed, and rolling systems were arrested and were dumb for ever; when eternal gloom had swathed the infinite dead, and space had become the mausoleum of eternity—if there be a Spirit and a Spiritual sphere, they also then would, alike with universal matter, cease, since matter and energy, or spirit, are the integrate elements of the universe, and must all continue, or discontinue, as one. Even if spirit is the only reality of which matter is the shadow, if the shadow is impossible, then also is the substance, since shadow is the image and proof of something existing. No shadow, no substance. To this some may captiously reply: When light reaches meridian there is no shadow; and so when time and matter are no more, and eternal spirit finds its meridian life, like light in its zenith, it will cast no shadow. To this we would answer: Meridian light implies approaching darkness and night; it also is a cyclic sequence, and never is it everywhere

unchanging zenith, and therefore the term is but a form of speech. But if meridian light may be called the spirit of the sun—to preserve the analogy, it is less than the sun, since the latter, being matter, is the real substance—the former is both the occasion and supply even of meridian light. If it is said matter is impossible without spirit, whatever that means, we reply: Spirit is equally impossible without matter. What is erroneously called spirit science calls energy. If matter, then, is destined to become a fossil, a derelict, or chaotic *débris*, energy also must vanish and be no more, since it is matter-motion—no matter, no motion.

Eternity, the infinite womb of being, would be of no further use—it would be nought but an infinite, devitalised ocean of unchanging darkness. How could there be even the gleam of a hope of a spirit-existence—supposing there is such at present—when the fountain of its existence had ceased to be? The only motion which may be called abstract, and which is frequently confounded with spirit—sometimes erroneously called ego—is mental motion. We repeat, it is merely a material function—a sequence of matter-force, identical with all other organic functions as mechanical evolutions. As a function it has a beginning, and it has an end with the individual in whom for a period it operates; but as a force it belongs to infinite and eternal matter. It is the invariable resource of the advocates of the freedom of the will to take their stand on their *supposed* consciousness of their freedom to will as a proof that they are free to will. We have endeavoured to show how this supposed consciousness of freedom arises. But is it not ridiculous, this claim to “free-will,” when the claim itself implies an absurdity? It infers “free-will,” not in the relation of a part being moved by the whole, but of a part moving the whole. The claim rests on a

misapprehension of our cyclic position in cosmos. As soon as we realise that we are but *parts* in a universal scheme, actors and reactors, and subject to laws that cannot in the minutest detail change or fail, the truth will come to us that we are free only as are the winds and waves, forest trees, and meadow flowers.

"We make up our minds." When we use these words, we imply that we are units related to the whole, acting in concert; that the consciousness, or energy of the whole, is working in us, through us; and therefore what belongs to the whole belongs to each part of the whole, and thus all the parts are equal to the whole.

What is it that persuades us to make up our minds? On an accurate answer to this question—whether we can give that answer or not—rests the solution of the problem. Decision and volition do not immediately follow on perception. Intention precedes decision. Intention is a nebulous motion of mind, or brain-matter, caused by sense-contact with the external world, and attains maturity by a conjunction of impressions pressing one upon another.

A motion must be strong enough to beget or effect a subsequent motion. It takes, therefore, a collection or succession of impressions to effect what is called volition; and only when these impressions, by colliding and passing through a physico-chemical process, collect sufficient momentum to arrive, so to speak, at bursting-point do they issue in the form of will-action. The whole succession of phenomena are links in a cyclic chain of sense-excitation, which, like the strings of a musical instrument, expresses and repeats in its own way what is communicated to it. Advocates of the doctrine of the "freedom of the will," by assuming their own free-will, easily construct, by the same process of assumption, a Supreme Universal Will, which created all things, and

demands their obedience and worship. It is curious to observe the obliquity of judgment involved in this inference. Less credence is given to what can be attested by the senses than to a mere ill-directed inference arising from prejudice and ignorance. Thus, with a feeble show of reason, they ask: "What is the opposite of the universal?" and answer their own question as follows: "It is the particular, the partial, the limited," with which they contrast "the unlimited, the endless, the absolute; there is no real opposition between the personal individual and the universal."

The thinking-self of the man, the real personality of the man, the consciousness of the spirit, or, to use the language of religion, the soul, does in some function, which we cannot as yet attempt to determine, transcend the limits of time and space, and affords us a basis from which we can arrive at the idea of a Being who is at once universal and personal, who can sustain the framework of things, and yet answer the impatient queries of the universal soul.¹

Assumption is the very libertine of thought. It has no bounds and little humility. Beginning by assuming that mind and will are entities, such advocates must prolong the delusion, and the completed theory or structure has only the stability of the foundation assumption. Thus, it is said, "A personal consciousness can be enlarged indefinitely," and can even be regarded as potentially the sum of all things, and still be considered "no strain on logic." Let us see what these statements are worth by *argumentum ad judicium*. Phenomena, "which they cannot attempt to determine," and which "transcend the limits of time and space," can, notwithstanding, observe, "afford them a basis from which they can arrive at the idea of a Being who is at once universal and personal"—that is to say,

¹ *The Reality of God*. M. L. Courtney, M.A., LL.D., Fellow of New College, Oxford.

that phenomena, of which they admittedly know nothing, can be trusted "as a basis" from which to acquire something of which, if possible, they would know less than nothing. In other words, the "soul," which they "cannot attempt to determine," may by some occult method find out the "Absolute, Indeterminate, and Infinite." If there are such things as freaks of mind, surely this form of reasoning is one of the most glaring. But this is not all; the author whom we have quoted takes an even wilder flight in his excess of hyperbole. Speaking of Christians, he says: "They can rise by an effort of their will to the sphere of the unlimited or absolute,"—that is to say, that with something which they cannot acquire they can become possessed of something of which they know nothing. What is the "unlimited and absolute" applied to a personality? Neither they who would rise to it, nor any scientist, know anything whatever about a "personality which is unlimited and absolute." It is more than frivolous to say that "the true opposite of the unlimited, the endless, the absolute, is the limited, the partial, the particular." A contrast between these statements is impossible. In contrasts the objects or states must both be cognisable, or at least equally apprehensible. Nothing whatever is known of an absolute or unlimited personality. Such a Being is non-existent to reason, and of it (or him) no evidence has ever been given. What similarity or "opposition" is there between an unknown, "indeterminate, infinite Being" and man? Imagination alone can construct a bridge of dreams to the "unlimited or absolute." Reason can find no footing on the fabric of a dream. The author whom we have quoted seems to have been bewildered by the inspiration of his audacity. He says: "There is no real opposition between the personal, the individual, and the universal." Put this against his

preceding statement: "The true opposite of the universal is the particular, the partial, or the limited." What can be made of an argument containing such manifest and inexcusable inconsistencies? Again, to affirm that "personal consciousness can be enlarged indefinitely" is the same as saying that an individual can tape-line his consciousness into the infinite, or, in other words, he can identify himself when he is absorbed by the infinite. This obvious sophistry may soothe mere faith; it will never satisfy reason. It will end in the same way as did Phaeton's attempt to guide the chariot of the sun. Identity implies an uninterrupted continuance of organic existence. That which has ceased to exist cannot be the same as that which afterwards begins to exist, for this would be to suppose a being to exist after it has ceased to exist, and to have had an existence before it was produced, which are obvious fallacies. The more we probe the doctrine of "Free-will," the more we find its fallacy, and discover it to be a mere material function utterly beyond the cerebral organ, or any external force, to endow as free. We repeat, "Free-will," so-called, is only the universal trend, or a form of material force finding local action and expression in organisms which are material and ruled by matter-sense. The sense, or feeling, of apparent freedom of the will is merely the communicated impulse of the aggregate universe as it courses through the infinite parts, producing sequences determined by necessity.

We may have dwelt too long on this section of our subject, but in endeavouring to be concise we may become obscure. Only in a rational apprehension of what is meant by the expression "Free-will," and its relation to cosmic processes, can a solution of an ancient perplexity be attained. Whether or not we have helped towards that solution the reader must be the judge.

The great hinge on which all true knowledge hangs is a knowledge of ourselves as corporate units of the universe.

Instead of being born with our own will free to struggle and fight and die, and in a future state to be held responsible for our failure or success in this life, we come into being as temporary instruments, and as *media* of sequences which alone are everlasting. Instead of our failure or success being regarded by a Divine God and Judge as the ground of everlasting punishment or reward, they are the net result of the natural law of action and reaction. The pain or pleasure which is felt between these two poles of human experience is nothing but the constant effort of nature to maintain the balance between the positive and negative, or physical forces. We are concrete, microcosmic units of force moving among and with the eternal forces of matter, which, in unflinching unity, administer the destinies of all things and all beings which exist and shall yet exist; and they and we and all coming generations are borne along the undated æons both as *media* and momenta of the uncreated energies of this infinite universe. No one unit is essentially lesser or greater than another. Less and great are religious distinctions. Nature does not know what lesser or greater mean: she knows no caste, displays no favour. If a period ever arrives—and, judging by past achievement, it will arrive—when reason and science will rule human conditions, then communities and nations will be just, tolerant, and enlightened. The emotional intoxicant of mere religious faith, of which ignorance and superstition are the ingredients, will then have exhausted itself. Its history, written in millenniums of human wrong and misery, will have ceased, for the fountains of superstition and bigotry will have dried up.

Reason and Science will sit on high places; and nations will no more strike at nations because of each other's covetousness, for knowledge concerning human existence and its real place and work in the universe will be paramount. Civil legislation will not be based on mere expediency, but on the unchanging equity of nature's own laws. The Unknowable will no longer disturb man's intelligence, for *all things* may be known. Unlike religion, science has no secrets, no hiding-place. Human interests will be identified with universal interests—the true sequence of which is the unity and consistency of existence.

CHAPTER XI.

IMMORTALITY OF MAN

THE doctrine of the immortality of the soul of man is intimately related, though in a negative way, to materialism, matter, and life.

Briefly, and in passing, we alluded to the doctrine in discussing matter and life. In this chapter we will give it a further brief consideration. The present age is characterised as one of intense analytical activity. The human mind must have proof of what it is asked to believe. The conception of the immortality of the soul and personal identity after physical death is one of the most ancient of human beliefs, and in that sense is a fact of great importance. It has exercised an immense influence over human thought and conduct, and therefore over the destinies of men. The idea of a future life is one of supreme interest, and ought not to be accepted or rejected on grounds less solid than the best reason or science can establish. Being a branch of our subject, it calls for consideration, and specially for such consideration as the light of modern knowledge sheds upon it. The notion of a future state as a *formulated* doctrine of faith is comparatively recent, and has only the value of a dogma, as we will endeavour to prove. Until late in the religious history of India, Persia, and Babylonia it had for the most part only a nebulous, although a widely distributed parasitic existence among almost all primitive savage races. Exceptions are alluded to farther on. It is admitted by the best students of primitive customs

that ancestor-worship was the origin of the notion of an after-life.

The worship of the dead, or ghost-worship, was practised in many forms, and was not only the origin of the idea of a future life, but it was also the foundation of the belief in gods. Some form of ancestor-worship was practised in very early times among almost every savage race. The palatial pantheons or tombs of Egypt, Greece, and Rome, in which the dead were laid, and in which their ghosts might worthily continue their lives, still give unmistakeable evidence that the ghosts of the dead were regarded with reverence and worship, and in the lapse of time were erected into gods. It has been conclusively shown by several students of this section of mythology and archæology that Osiris, the chief deity of Egypt, and Horus, his son, were at one time human individuals, who were born and died at Abydos, the ancient dwelling-place of Osiris. The latter was the chief or semi-king of that region of Egypt. He was a revered and worshipped mummy.

To the last, in spite of all corruptions, Osiris is represented as a mummy, and even when identified with Amen, the later intrusive god, he still wears his mummy bandages, and still bears the crook, the scourge, and sceptre of his primitive kingship. He was buried at Abydos, but was also equally buried at Memphis and Philæ as well. But that fact runs parallel with the local Madonnas and the local Apollos of other religions, and nobody has suggested doubts as to the human reality of the Virgin Mary, because so many different Maries exist in different sacred sites or in different cathedrals. Our Lady of Loretto is the same as Our Lady of Lourdes. Jesus of Nazareth was born at Bethlehem: he was the son of Joseph, but he was also the son of David, and the Son of God.¹

"The oldest sculptor shows us no acts of adoration or of sacrifice," says Mr. Loftie, "except those of worship at the shrine of a deceased ancestor or relative." This is

¹ Grant Allen, *The Evolution of the Idea of God*, p. 64.

quite in keeping with what is known of the dawn of religion elsewhere. Trees and the trunks of trees, stones, caves, and groves, were all used as sacred shrines, for sacrifice and worship. In Samoa, says Mr. Turner,

the special abode of Tuifiti, King of Fiji, was a grove of large and durable afzelia trees. No one dared cut that timber. His spirit or ghost had its dwelling within these trees. It is said of someone who attempted to cut one of them that blood flowed from it, and the sacrilegious offender thereupon fell ill and died. Even stones came to be regarded as ancestors, and by a like process did trees. Mr. Herbert Spencer and Dr. Tylor note many instances among Indian tribes who worshipped trees as their ancestors, and even believed themselves to be the sons of trees. In most instances of stone and tree worship they marked the place where a chief or some ancestor was buried, and in the lapse of time it became identified with the dead, and so superstitious regard and worship had an easy passage from the unseen dead to the visible stone and living tree.¹

Mr. Turner says of a sacred tree on a certain spot in the island of Savaii, which enjoyed rights of sanctuary like the cities of refuge or a mediæval cathedral, "that the king of a division of Upolo, called Atna, once lived on that spot. After he died the house fell into decay, but the tree was fixed on as representing the departed king, and out of respect for his memory it was made the substitute of a living and royal protector." When Xenophon built a shrine to Artemis, and planted around it a grove of many kinds of fruit trees, and placed in it an altar and an image of the goddess, no one would suppose he erected it over the body of an actual dead Artemis. The inscription upon Xenophon's shrine, "He who lives here and enjoys the fruits of the ground must every year offer the tenth part of the produce to the goddess, and out of the residue keep the temple in repair," carries us back to the origin of priesthood, which in due time evolved from primitive superstitious practices. When once the idea of certain trees being sacred

¹ Grant Allen, *The Evolution of the Idea of God*, p. 54.

grew common among men, many trees would come to possess, by pure association, a sanctity of their own. This is doubtless the case in India with the peepul, and in various other countries with various other trees. Exactly the same thing has happened to stones. And thus, although we believe the temple to have been developed out of the tomb or its covering, we do not deny that churches are now built apart from tombs, though always dedicated to the worship of a God who is demonstrably a deified personage.

We might with ease amplify cases and instances to prove still more conclusively that out of ghost or ancestor-worship god-worship sprang, and how with these grew the notion of an after-life as a branch of belief. If those who wish for the fullest light on this subject will read Mr. Loftie's *Essay on Scarebs* and Mr. Grant Allen's *The Evolution of the Idea of God*, they will have little hesitation in coming to a right conclusion on this very important subject. But enough has been said to show that the origin of the god-notion, with all the mythical growths which that notion generated, and which thickly cluster round it and form part of it, were the direct outcome of the ghost, mummy, or ancestor-worship. We have seen how the divine Osiris became a deity. When once a myth starts on a career, any and every kind of metamorphosis becomes possible to it. Osiris by this process became at once the father, brother, husband, and son of Isis, and also the son of his own son Horus. "The son proceeds from the father, and the father proceeds from the son." The myth and ritual inform us how "Ra is the soul of Osiris, and Osiris is the soul of Ra"; and how Horus, his child, awakened by magical rites from his dead body, is victorious over Set, the prince of darkness, and sits as Osiris upon the throne of his father, whom he has revived and avenged.

The gradual growth of a dead and mummified village chief, however, into a pantheistic god, strange as it may seem, is not in any way more remarkable than the gradual growth of a Galilean peasant into the second person of an eternal and omnipotent Godhead. Nor does the myth of the death and resurrection of Osiris militate against the reality of his human existence, any more than the history of the death and resurrection of Jesus Christ militate against the human existence of Jesus of Nazareth.¹

We will now consider briefly another closely related source of the idea of a future life. Fear undoubtedly had a large share in giving rise to a belief in ghosts; in their propitiation as a means to win their favour and assistance; and in their worship and the offer of sacrifice to them in hope of present and future good. Purely fanciful impressions of ghost-life afforded scope for the wildest and most grotesque imaginations and their concrete presentations. Belief in a known or unknown supreme power over life, conduct, body, and soul, soon usurped the ancestral ghost. This deified ghost held man in utter supernatural bondage to him. Thus an unlicensed fancy became a confirmed, though a baseless, faith. Familiar more or less with the stability and mystery of some of the phenomena of the physical world, men were impressed with the fact that, though, like the things which their eyes beheld, they were ever changing, and changing most in death, they themselves could not utterly pass away. They could not perceive, any more than the great mass of men can even to-day perceive, that mere change did not indicate immortality, but only changed matter-form—a once living organism conforming to natural law. When primitive man beheld the sun vanish below the horizon, at one time in splendour and at another time in tumult and gloom, and come again at the other side of the world (as he

¹ Grant Allen, *The Evolution of the Idea of God*, p. 65.

thought) in new life and majesty, having passed through the unknown darkness, the phenomenon, in his total ignorance of the simplest laws of cosmogony, would convey to his mind the impression that his own passing from the earth would not be permanent, that his ghost would continue to live amid familiar scenes. The sun was to the impressionable and simple minds of primitive men an authority for the idea that there could be no passing into non-existence. If the sun went away and came again, would not they also, although unseen, continue to live, and even be greater in their after-life? Thus, the setting and rising again of the sun, and the great orb itself, would arouse worship; and so we have the origin of sun-worship, and the sun-god, with the attendant ritual of sun-adoration. Thus by ignorance the world knew not the truth.

There could be no impediment to primitive man arriving at a notion so attractive and irresistible to the ignorant. We can easily understand how potently such a recurrent phenomenon would sway the mercurial imagination of men utterly under the influence of emotion. The regularity of the phenomenon would not engender indifference, or relax their fear, but rather strengthen the impression of its power and implied significance. The sun was daily over them. It gave, and it withheld. It blessed and it blighted. The primitive attitude of mind was natural and perhaps inevitable; and the notion of some kind of future life, instead of being a thing of dread, would actually be a relief—something to look forward to, since it presented to them no threatenings, no moral or spiritual punishment.

The characteristic development of what are called the religious instincts was not confined to one people or tribe, but was typical of primitive man. Thus an idea of some kind of after-life was the contingent to all the

world-forms of superstition. A belief in ghosts widened into a belief in a supreme deity, and ultimately into a belief in a future state and a future life. From a belief in a supreme god the doctrine of immortality was a certain sequence, and appealed to superstitious theorists as conferring an infinite dignity on human life and as the unequivocal solution of his destiny.

The doctrine of immortality rests, therefore, upon a belief in one's own ghost, which developed the assumption of an unknown God. Since then the assumption of ghost-life is the foundation of the doctrine of immortality, and since a belief in the doctrine has only the value of the authority for it—the authority, as we have seen, being no better than a chimera or a ghost—both the assumption of an unknown God and the doctrine of immortality are of equal value—the value of a pure negation. If the first principle or premise is without any valid foundation, the conclusion is invalid. Immortality as an article of belief is a pure delusion, a dream of the untutored imagination which in its infancy rioted in over-excitement, knowing little except the desire of perpetual sensuous indulgence. It was the first fruits of an infirmity of the mind of primitive man who had no knowledge whatever of either his body or mind. Had he been possessed of the most rudimentary understanding of his bodily relation to his material surroundings, had he known that his senses were the channels to his brain of all impressions which moved him to thought and action, he could never have imagined a ghost or believed in an after-life. His organic relation to and his identity with his material surroundings, appealing to his intelligence uncorrupted by any religious cult or priestly influence, would have interposed with proof a natural authority against them. The primary impressions on the incipient human mind amounted to a

contradiction of the facts of his existence, whether or not the facts were known. Facts exist, and therefore are, although the knowledge of them be non-existent.

Had man at first been in possession of the requisite knowledge, as we have said, he could never have conceived the idea of his continued identity after death, for, when the right knowledge *does* come into his possession, he at once perceives how baseless and chimerical is the superstition. Man's primary attitude of contradiction to the facts of his true relation to the material world was, however, an element in his mental development, for truth resides in and issues from the action and reaction of opposing forces. As action and reaction form a process of adaptation to true relations of being, although a slow one, they must inevitably issue in an adjustment of men's minds to their true relation to the external world. Hence the truth of the non-immortality of man against the error of the opposing contradiction—the immortality of man. The former in its effects is the action of the chemico-physical law of the universe; the latter is a contradiction of that law, and therein lies the truth and inviolable sanctity of the law itself. Contradiction is an essential element of thought, as it restores a suspended balance, and thus establishes truth.

All through religious history the doctrine of the immortality of man is assumed, partly on the ground that nothing can be annihilated, partly on the fact of the conservation of forces, but chiefly on the ground that New Testament Scripture postulates it. The conservation of force is nature's method to preserve the balance or correlation of its energies, so that, in the midst of their majestic play, transitions from point to point, and seeming expenditure, there is no diminution of the aggregate energy of the whole, but rather by a

law of reaction, conservation in augmentation; each wave of power comes back upon itself, and results in an increase of energy. It is forgotten by immortalists—even while they may believe in the conservation of force as a proof of the soul's immortality—that the human mind in itself, which is supposed by them to be an entity, is nothing more than cerebral or material force passing through the brain from the external and conjoint world and back to it again.

Being, therefore, what it really is—a non-entity as an individual existence—neither of the terms “annihilation” and “immortality” can, with reason or propriety, be applied to soul. It is also forgotten in attributing immortality to man that, in the degeneration or death of the body, its identity or personality is impossible, since the temporary occasion of it is permanently suspended. As has been already said, mind is a function or a motion consisting neither of personality, substance, nor essence; therefore mind, as consisting of these or any one of these attributes, has no existence. Even if mind were substance or essence, it could not survive the degeneration of the brain. Degeneration is a chemical process, caused by permanent paralysis and decay of the nerves, which, by their connection with the external world, are the media of sense and consciousness to the nerve-centre—the brain—without which, in normal action, so-called personality is impossible. But although mind or personality is obliterated when death, so-called, ensues, since correspondence with the external world ceases, matter-motion, or chemistry, or energy, or life so-called, does not cease, does not even pause—it is eternal.

Thus matter-motion is perpetual and universal—the proof of the identification and integration of all physical phenomena with the universe. But at death, so-called, a chemical change begins, and energy or life is at work

as really, though in a changed form, as when the organism was individual and conscious. Energy is as actively present in pulling down as in building up an organism. Immortality is an eternal verity, meaning the eternity of matter and energy.

In this sense, and in this sense only, is immortality an eternal fact. In the disintegration of the organism the conditions of consciousness are overturned, and identity is lost, or, more truly, the real identity of the organism with matter is shown by its return to its ultimate. The energies which acted through conscious and integrate media, react with the same activity through media deprived for a period of integrate consciousness, and in this cyclic process reconstruction to the evolution of new organisms begins.

There is no waste in the process, for all is conserved in reaction. There is no super-sensuous action in dissolution, any more than in evolution. The human cell, having arrived at maturity, retraces its course backwards by cyclic sequence to its ultimate. A building which has survived its purpose can be reconstructed only by taking it down and re-forming its old material. There is no waste, since what of the old is not used in reconstructing the new will be used in some other way; but the identity of the old is lost in the new edifice.

It is said of the spirit of the "beast" that it goes back into the impersonal mass of mere matter, and the "spirit of man to God who gave it." That statement was in keeping with the meagre knowledge of the age in which it was spoken, but no sane man would deliberately utter it in our day. It contains a phraseological contradiction, as well as an irrational contrast. What is the rational difference between the "beast" spirit and the human spirit, since both animals are said to have it?

If there could be such an unknowable "sublimate"

personality as a discarnate entity, or spirit, it surely would belong to an integrate spirit-sphere of existence, just as matter belongs to an integral universe; and bear also the same relation to matter as now, whatever its temporary organic lodgment. There could not be two spiritual, as there could not be two material, universes. The spirit of the "beast" and the spirit of the man would therefore, if they could exist, be of the same quality or "subliminal" essence. If spirit be a man's "sublimate" self, must it not be a "beast's" also? If it be imperishable or immortal in man, must it be other or less in the "beast"? If spirit could be a discrete or abstract entity composed of spirit-atoms belonging to a spiritual universe, whether of "beast" or man, they would both gravitate to it, and recognise in each, if not each other's equal, at least each other's co-ordinate in kind or ultimate. Science proves that man has neither function nor organ that is not common in a greater or less degree to all animal organisms, and conspicuously demonstrable in the man-like apes—man's immediate predecessors. Can immortality be a spiritual republic where all spirit-units, those of "beast" and man alike, recognise their essential sameness and common origin? To be consistent, to be fair, immortalists should not shrink from fraternising in the future state with the spirits or "sublimated selves" of those animals which formed the chief portion of their sustenance upon the earth, if they are essential relatives inspired by the same ultimate Spirit. But, since the term "God" actually signifies nothing more than an ejaculation of astonishment, to say that the human spirit returns to God is only equivalent to saying that nothing returns to nothing.

It is affirmed even by men of intellect as a proof of the immortality of man that "the mind can carry on its operations independently of the body." "Having looked

upon the external universe, we can shut our eyes and draw ourselves altogether off from the vision of it, carrying, however, within us at the same time in memory both flowers and firmament and surging seas and aspectable stars." Of all weak resources to bolster up the doctrine of immortality, this is about the weakest. That we can close our eyes and still retain consciousness of the impressions made upon the mind through open vision is unquestionable; but to affirm that mind can conceive or perceive the outer world without being in contact with it, or interpret impressions made upon the brain through the senses "independently of the body"—*i.e.*, of bodily organs—is manifestly too absurd to merit notice. Memory is a reacting function. In action it only releases or returns what the mind received. Memory may be called the counterbalance of impression. Where is the mind or brain motion if it is not in the body and one with the senses while it perceives and by union with which it perceives, even supposing it to be an entity, which it is not, but a function merely of the integral mechanism of the body?

Man's mind—or, to be accurate, his brain in abstract reflection—merely performs a process of cud-chewing or negative reaction, or which may be regarded as an act of digesting that which the senses had previously been in correspondence with, and which is stored up in the brain for future use. There is nothing in the mind—nothing which enters it or issues from it—which did not first pass through the senses from the outside world to the brain.

The psychology of materialism begins with the senses and ends there; everything else belonging to the mind ought, therefore, to be classified as a physical and cyclic sequence. When it is demonstrated that man is an evolution of matter, it follows that all he is and has must

be the product of evolution. Material evolution cannot bring forth a spirit, or something of which it does not even contain the rudimentary elements. It can only evolve changed forms of its own substance. Büchner regards the idea of immortality as "probably the most horrible which the human fancy could invent." What is true, therefore, respecting the idea of God and immortality is no less true of every other elaborate assumption of theological religion.

Religion, and all that it is accountable for, is merely a contrivance of superstition to allay fear of what the senses felt, but which the reason could not explain—an objectifying of man himself in a God or gods for the gratification and perpetuation of the emotions. In the light of modern knowledge men should know that the reflections or reactions of the mind are but ephemeral images or cyclic sequences of previous impressions caused by cerebral molecular action. Without this knowledge they will continue to fancy them the effects of a Supernatural Power, and thus suffer from a hallucination which can offer no peace.

Men who worship religious objects really worship themselves through their fancies. This was long ago stated by Feuerbach and confirmed by Strauss, both of whom knew that religion consists of ghosts, and regarded it accordingly.

Is there any wonder that believers in religion sometimes fall into licentious living when their minds are drugged by superstitious fancies? If they do sometimes recover themselves, and perceive the hollowness of it all, should it be a further wonder if they sink into indifference to life, or lapse again into the grossest indulgences? Materialists are anything but pessimists. They are essentially optimistic. They have nothing to lose by death. They anticipate a golden time for their fellow

creatures and the world—a time of great and generous liberty from superstitious or religious prejudice.

Immortalists have no certain hope—although they say they have. An expectation cannot rise into a certain hope, except that it can be transformed into a positive assurance of realisation, which all know is impossible. They are ever on the two horns of a dilemma, and are being tossed from the one to the other—doubt or surmise of the present on the one side, and on the other side an ever-present sensitive suspicion that their certain hope of a blessed future is not so certain after all. A phantom heaven on the one side, and a phantom hell on the other; each yearning for them, keep them ever on a strain which makes their lives alternately receding points of light and darkness. How much better are the act and joy of living to those who know from whence they are and whither they go—the eternal universe whose they are, and from which there is no possible separation.

We have tried to show how baseless the notion of individual immortality is, and how alien also it is to the course of nature. All that is known of spirit—if the term “known” may be used—proves it to be a concomitant of matter. It only remains for us to state some facts which go to prove the untenability of the theory of an after-life. The assertion that a belief in the immortality of the soul was originally shared by all men, or, at least, by all rational men, as a proof of its reality, is not quite accurate. The dogma of immortality of the human soul is not an intuitive but a contingent idea, and has never found universal acceptance. Some
x of the Australian races, the Veddahs of Ceylon, some
x groups of Indian Seelongs, some primitive branches of
x the American race in Brazil and the Upper Amazon,
x have no knowledge either of gods or immortality. The

absence of belief in immortality and a Deity as a prime or intuitive fact of being is a very important and significant truth when studied in the light of secondary causes. As the outcome of philosophical speculation, and at a late stage of history, a disbelief in immortality of the soul as the ripe fruit of profound reflection on life and death is met with. With the decay of classical antiquity the notion of a personal immortality came to be thought of as a diplomatic resource. The attitude of the Papacy during the Dark Ages was an ever potent menace to free thought and utterance. The fate of Galileo, Giordano Bruno, and others, effectually shackled free thought from uttering anything outside statutory religious dogma. Even up to the last century the science of the brain remained so imperfect after centuries of neglect that the soul continued to be regarded as a mysterious and supermundane entity. Darwin, by his theory of descent, and Huxley, by his biological researches, gave a needed inspiration to its study as a physical function. The cellular theory of Haeckel and the marvellous progress of microscopic anatomy of the brain have proved to all who are willing to receive proof that the immortality of the human soul is a pure myth, resting chiefly on its intimate relation with the teaching of supernatural Christianity. It is suggestive to note that from this fact arose the erroneous idea that the myth of immortality is a fundamental element of all the higher religions. This is certainly not the case. For instance, Buddhism, which claims fully one-third of the human race as its believers, includes no belief whatever in the dogma of the immortality of the soul. Confucianism discards it; and even up to the Hebrew Exile the Jews did not include it in their Monotheism, which, strictly speaking, was not Monotheism, but Pluralism.

Indeed, they gave a categorical denial to the doctrine. From the Chaldean Moon-god of Abraham to Yahveh—which name was afterwards adopted both by Abraham and Moses, and which was derived from the heaven-god under the Oriental title of Moloch or Baal, Ana, Bel, and Aa—there was a frequent ebb and flow of worship from the one to the other. The same plurality of gods was characteristic of the Indian Trinity—Brahma, Vishnu, and Siva. The modern religion established by Christ has added to its trinity of Father, Son, and Spirit a fourth deity, in the person of the “Virgin” mother of Christ, who, in fact, has superseded the three in power and importance. The dogma of the immortality of the soul, then, derives its place and power from the Christian religion. It is a basal article of faith in that religion: “I believe in the resurrection of the body and in eternal life.” Christians condemn Materialists for the vulgarity of their thesis. But it is our firm belief that the Christian idea is fully as materialistic (it is certainly anthropomorphic) as that of the pure Materialist. It is one of the standing charges of the Church against science that it is materialistic. We must remark, in passing, that the whole ecclesiastical doctrine of a future life has always been, and still is, materialism of the most pronounced type. “It teaches that the material body shall rise, and dwell in a material heaven.” So said Savage in his work on *Religion in the Light of the Darwinian Theory*.

One has only to read in the New Testament the pictures and promises of Heaven in the future state, where all the sensuous pleasures of the most elaborate life of esthetic enjoyment await the “faithful”; while for the godless the All-loving Father reserves his eternal fires. Could there be conceived a materialism more implicated in the *senses* than this?

The soul of man is the sum-total of “the characteristic

psychic energy which is all we perceive (sensation, presentation, volition, etc.), and the *psychic matter*, which is the indispensable basis of its activity—i.e., the living protoplasm." Thus, in man and the higher animals the soul is part of the nervous system, and has its place in the lower part of their "multicellular protoplasmic body." In this sense the soul is actual—the sum-total of physiological functions.

The notion of a "subliminal" soul is purely mythical. We have already shown that to attribute to the soul an immaterial entity is opposed alike to reason and scientific facts. To think of it as gaseous substance is to subject it to the ordeal of chemical conversion.

The cosmological proof that the "moral order" of the universe demands the immortality of the human soul is an irrational assumption. The moral proof that the defects and unsatisfactory aspirations of our earthly existence must be fulfilled by "compensative justice on the other side of eternity" is nothing more than a relic of superstition and sensuous fear—a human infirmity that desires to postpone suffering to a period as remote as possible. We see how the soul grows in the infant and youth, then matures in full man, then shows in the senile degeneration of old age its psychic decay, while natural and persistent phenomena go to prove its physical origin and structure.

CHAPTER XII.

INSPIRATION

INSPIRATION is the Anglo-Latin equivalent of *theopneustia*, and is used to express the idea that elect men of old spake as they were moved by a Divine Power. The idea is not exclusively Jewish or Christian, for pagans had their inspired teachers and their own ideas of supernatural possession, and have largely influenced the doctrine as Christians now accept it. The idea is a common one, and the modern form of inspiration is merely a graft upon the ancient superstition. There is no doubt that, like the belief in ghosts or gods, it was the offspring of superstition formulated and crystallised by the possessed or inspired persons or priests into an accepted belief. Those inspired persons were generally abnormally sensitive, nervous, emotional, and, withal, very ambitious of place and power.

Emotional temperaments subject to impulses, fear, courage, military ardour, patriotism, revenge, ambition, and kindred passions, when under the sway of one or more of the passions and released from the restraints of reason, were regarded generally by Pagan and Christian alike as under the immediate influence of some deity who had something to impart, and which was hidden from the non-possessed. While in the ecstatic mood, and swayed by it, their utterances were accepted as the voice of their special god, no matter how violent and ridiculous, as they for the most part were. These utterances became articles of faith and oracles, especially if

they were inculcated by priestly authority, and represented as commands from their god—which was merely disguised craft. We have only to witness the vagaries and violence which characterise the passions of love and hate to show how, among an emotional and simple people, when used craftily, they would be quite effectual for priestly or religious purposes. Like superstition, inspiration was occasioned in the first instance by dread of the unknown, and the impact of that on mobile emotions; and, in a later and more pronounced form, it was the egoistical becoming the dogmatical and priestly, without any show of, or claim to, reason. Inspiration, therefore, was at first a nervous disorder, and later an occult form of priestly domination. It was superstition, or a belief in the miraculous, converted by the claimants to inspiration into the oracular. There was no difficulty in the transition; on the contrary, it was easy for minds stronger than others to take advantage of highly credulous and emotional temperaments, and thus sway them at will to sacerdotal ends. In this way we have the starting-point determined of the religions of the world. The history of Christendom is a history of superstition, in which a belief in inspiration occupies the chief share. That it is a product partly of superstition, and partly of priestcraft for occult purposes, is proved by its conditional character and value. It cannot survive individual liberty and the light of knowledge, but surely gives up its rule over the mind as the facts of existence become known, and vanishes altogether before the analysis of exact science.

Many of the earlier Pagan ideas of inspiration have had a lasting influence on some of the forms which the Christian belief in inspiration assumed. Those who are versed in classical lore know that it contains many words and phrases which passed over into Christian phraseology. Poetic genius, the power of prediction, the ardour of love,

and the battle frenzy, were all ascribed to the power of a special deity entering into and acting in the person so possessed. These words were taken over into Christian literature, and used to describe what the Jew and Christian had called inspiration—the equivalent of the Pagan notion of possession. The Pagan and the Christian ideas of inspiration are literally identical, the latter differing only in the manner in which it was employed. The Pagan was concerned more with the symptoms of the fit or frenzy of inspiration, the Christian was chiefly concerned with the results. What the inspired person said or did was of less account to the Pagan than the fact that he was possessed and automatic in the hands of his inspiring deity. But in Christian theology inspiration assumes to do with the idea that God has wholly committed to writing the revelation of Himself and his purposes to men in an infallible way, rather than the psychological phenomenon of inspiration. In other words, the Pagan valued the fact for ethical significance, while the Jew and Christian revere it for its supernatural issues. The diagnosis of the respective estimates might be an interesting subject of inquiry—how the Pagan beheld the exhibitions of possession more from a sensuous and bewildering aspect, and the Jew and Christian from a psychological and superstitious attitude of mind. Someone with a metaphysical craze might turn to the solution as an interesting pastime.

Up to the Captivity the Jews had little, if any, notion of inspiration in its ultimate significance; and only as captive bondmen, filled with the passion of patriotism, did they perceive how a belief in it might be used to rouse their nation for the restoration of their Zion, and for revenge on their oppressors. With the poets and prophets, men of moods and passions, came the new era—the belief that their country's God conveyed to them

by inspiration His will and intention. Thus we have the Bible as God's revelation wholly committed to writing. What are we to infer from this, especially when taken in conjunction with the fact that Christians were left in doubt for over two centuries (until the Nicean Council in the third century) as to what documents composed the Bible or the inspired canon of Scripture?

As to the manner of choosing the inspired documents, the less that is said about it the better. The writers of the Apocrypha give us no theory of inspiration. Such knowledge as we have of the opinions of Hebrew thinkers on the subject comes chiefly from the Apocrypha, from Josephus, and from Philo Judæus. All that the Apocrypha indicated of it was that the Pentateuch, or the Books of the Law, were held in reverence; but beyond this there cannot be found a doctrine of inspiration. Nor does Josephus throw any light on the doctrine. In fact, it was from Plato that the theory of inspiration was borrowed by Philo, who first, by bringing the reflections of Plato on the Pagan inspiration, sought to explain the Jewish doctrine. The Christian's, or rather Plato's, view was strengthened by the apologists, who were accustomed to plead for the credibility of the inspiration of the Scriptures by appealing to the oracle of Dodona, to the supernatural character of the Sibylline books, and to the generally accepted fact of possession. Since its early conflicts with Gnosticism the Church itself looked upon Scripture as primarily a means of information, and not so much a means of grace. The Scriptures edified because they instructed, and were of importance because they gave information not otherwise attainable; and inspiration, whatever else it was, came to be regarded as the means whereby that information was guarded.

As the Church grew and her power increased, the doctrine of inspiration assumed a definite and

supernatural meaning, which subsequently was transposed from the Bible to the chief Bishop of the Church, who was, even more than Scripture, inspired of God. Under the great influence of the schoolmen the infallible interpretations were collected, and side by side with an infallible Scripture was the infallible tradition, or the official interpretation of Scripture.

Although many different opinions were held about the details of the doctrine—such as the vowel points and accents, and not merely the thoughts and words of Scripture, chiefly by Gregory the Great, Agobard of Lyons, and Thomas Aquinas—the decrees of popes and councils placed the doctrine of inspiration and the supernatural authority of Scripture beyond cavil, and ratified them by the papal canon of infallibility. While the allegorical senses of Scripture were accepted as due to inspiration, there was a division of opinion among many that inspiration was not all equal, and that a lesser degree of inspiration could be discussed in the allegorical portion of Scripture. By what method the difference was discerned remains a mystery.

At the Reformation, Scripture, after a long rest, was again subjected to criticism, and in the hands of Luther, Calvin, and Zwingli the doctrine of inspiration, along with some others, diverged into a more or less modified form of the miraculous. Although we cannot anticipate much change of opinion in papal doctrine and dogma, since the Papacy is infallible and its Head is incarnate inspiration, there is abundant evidence that all schismatic sections of Christianity are gradually shifting their positions in respect to the doctrine of inspiration. If the present development of opinion continues—in the form of what is called the “higher criticism”—there can be neither difficulty nor danger in predicting that, *in a limited number of years*, the various, or at least

some of the competing sections of the Church, will have wholly abandoned the doctrine of supernatural inspiration. It is only true to say that already many sections of the Church have abandoned the doctrine of Inspiration in favour of a human and rational translation. Before the facts of science and under the pressure of reason they really have no other alternative.

If inspiration, then, was merely a notion borrowed from Pagan ceremonies—the absurd source of which we have tried to point out—the Christian theory of Scripture infallibility has no better foundation than the ghost theory of early superstition. If a man or any number of men attributed their utterances and grotesque actions when under the sway of great mental excitement to the inspiration or possession of the supernatural, and if these displays had a sympathetic bearing on the hopes or fears of their audiences, it is not difficult to understand that they would be regarded as inspired. Indeed, to have been regarded as less than inspired would have been considered impious against the inspired and the inspiring Deity. In fact, that such was the case is historically recorded. Once accept the inspiration theory, and its corollary necessarily follows—infallibility.

If we examine Scripture for evidence of this two-fold doctrine, we are met with negative results. It is not a question of the authenticity of the Gospels—although that is still an unknown quantity—since it rests altogether on the internal evidence for the doctrine of inspiration. If the doctrine of inspiration is a mere notion, and we contend that it is, of what value are the Scriptures except as approximate history? In closing, we shall quote a few instances—test-instances—of the value of so-called inspired and infallible Scripture.

The test of a statement does not consist in its acceptance or belief. Even if a statement were made by a

contemporary of Christ as evidence of Christ's miraculous conception, His miraculous deeds, and more miraculous resurrection, that does not make them true. Some proof other than mere statements from sympathetic disciples is required to ensure belief in supernatural phenomena.

But here are some test-instances. Matthew tells us, when Christ's mother Mary was espoused to Joseph, before they came together she was found with child by the Holy Ghost. He does not say who found this out. Matthew says this as if it were no uncommon occurrence (history says that it was a common occurrence) for young women to be found with child by the Holy Ghost or by the gods; so that when Mary was found in that condition there was no difficulty in fixing the paternity of the child. Illegitimate males born of maids in good social position were frequently recognised as begotten of gods, and were called the son or sons of God. Any scruple that her betrothed may have felt respecting Mary's condition was overcome by an angel, who, it is said, appeared to him in a dream, and told him to "fear not to take unto thee Mary, thy wife, for that which is conceived in her is of the Holy Ghost." This dream may have perfectly satisfied Joseph, but it is surely the faintest conceivable evidence to substantiate the fact of a miraculous birth. How would such evidence be received by a legal body of men, or by anyone of us if placed in like circumstances? Luke's version of the occurrence is somewhat different. He says that "the angel Gabriel was sent from God unto a city of Galilee, named Nazareth, to a virgin betrothed to a man whose name was Joseph, of the house of David, and the virgin's name was Mary, and he came in unto her."

How was Luke informed of all this? He may have known, or he may have been told by those who knew, of a man Joseph and of a woman

Mary, both of them residing in Nazareth; but how came he to know the angel Gabriel, and how did he come to know that this angel was sent by God to this woman in Nazareth? Was it Mary who told that story, or had Luke some other source of information? If he had, what was it? When we are told that the Gospel writers were inspired by God to write as they have done, we ask, How did other people find out that they were so inspired?¹

We make no remark as to the serious difference between Luke's statement and the statement of Matthew, but would ask the reader carefully to compare the two, and try, if he be able, to reconcile them. If the books in the Bible are the inspired Word of God, how has the fact been found out? What is the test? Why not put Milton's *Paradise Lost* and Bunyan's *Pilgrim's Progress* in the same category of inspiration?

In Greek and Roman times—and also in contemporary Hebrew times—if high-born maidens or daughters of kings gave birth to illegitimate sons, their advent was attributed, not to a human, but to a Divine or miraculous cause, and the children so born were regarded as the sons of some god or gods. There was, therefore, no astonishment expressed or shame felt at the birth of Mary's son. Doubtless the title, "Son of God," as applied to Christ, can be traced to a current custom.

The test of prophecy affords a test of the value of inspiration. If we can find one of supreme importance, and one which was uttered with more authority than any or all the others in Scripture, and find it failing in every particular, we shall be able to judge of the value of all others as a proof of inspiration. There is about that prophecy, which we would refer the reader to, no mysticism, for it is perfectly distinct and definite, and comes from supreme authority. It is that of the

¹ S. Laing, *Modern Science and Modern Thought*.

approaching end of the world contained in the New Testament.

St. Matthew reports Christ to have said: "For the Son of Man shall come in the glory of His Father with His angels, and then He shall reward every man according to his works." "Verily I say unto you, There be some standing here which shall not taste of death till they see the Son of Man coming in His kingdom." Now, it is quite certain that all standing there and who heard Christ utter that prophecy did taste of death without seeing the Son of Man coming with His angels. What is the conclusion? Surely that either Christ was mistaken in speaking these words, or else Matthew was mistaken in supposing that He spoke them. Paul predicts the same event in still more definite terms. He says: "For this we say unto you by the Word of the Lord, that we which are alive and remain unto the coming of the Lord shall not prevent them which are asleep." "For the Lord Himself shall descend from heaven with a shout, with the voice of the archangel, and with the trump of God, and the dead in Christ shall rise first. Then we which are alive and remain shall be caught up together with them in the clouds, to meet the Lord in the air." Observe that the time is distinctly mentioned to be in Paul's own lifetime, who is to be one of the "we which are alive," who are not to "prevent" or interfere in any way with those who have "fallen asleep" or died in the interval before Christ's coming.¹

We have here, as the same careful writer has said, "the most distinct prediction conceivable, both of the sublime event which was to happen and the limit of time within which it was to take place; and, as if to give it confirmation, Paul declares it to be an inspired prophecy spoken as the Word of God."

We might add to these instances very many more, both from the Old and the New Testament (copiously exemplified by Professor George Adam Smith in his *Modern Criticism and Preaching of the Old Testament*), and concerning which, it is affirmed, they are inspired of God, but which have been frequently exposed as historically inaccurate and physically impossible, as well as wildly irrational, and traceable to adaptations of ancient traditions. The conclusion is irresistible—namely, that inspiration in

¹ S. Laing, *Modern Science and Modern Thought*.

the supernatural sense is only a temporary superstition, in which there is not an atom of truth, nor an excuse for the devout veneration which many old-fashioned and well-meaning people still have for it. The original idea represented an absorbed or rapt, intense mental condition, frequently brought about by some physical disturbance, such as starvation or nervous exhaustion, in ignorance or defiance of natural law issuing in mental aberration. It is a hopeful augury that the modern desire for thoroughness is insisting on knowing the cause or causes which led to the inspiration theory. It is certain to issue in a more intelligible and rational explanation than the official and superstitious one which still clings to the Christian conception. With that delusion dispelled, the Bible will take its proper place in literature, and be studied with more universal respect and profit than it has ever really attained. It will rank among other mythological treasures, and will not lose but gain thereby.

Religious science—or the exact use and influence of religion as an ethical evolution—will have unrestricted scope for practical issues when the prejudices of mere faith and the violence of emotion shall have passed away.

When that time arrives—and it is not far off—the momentum which science will receive from the removal of religious restraints will be incalculable; every gateway to knowledge will be unbarred and flung open, the crooked shall be made straight, and the rough smooth, and the places which were labyrinths and mysteries will be seen to have been so only in the fears and imaginations of men. Reflection then will show—too late for the countless hosts who suffered and are no more—how ignorance can rob our being of its proper joy and sweetness; deprive us of the ecstasy of intellectual light; and

render our minds insensible to truth when it does shine on us, and therefore to our best and truest happiness.

Scaffoldings must be removed, but the royal building of Truth which they hide behind their disfiguring shadows will remain to bulk ever more largely, waxing in might and magnitude as Science brings to it its eternal stores of treasure.

APPENDIX

A FEW months ago Mr. F. W. H. Myers published a work on *Human Personality*, which someone endowed with the saving gift of humour, called "A Gospel According to Mr. Myers." Like most books, *Human Personality* had to face the two extremes of praise and blame—undue inflation and undue depression.

If we may be permitted to give an opinion, since it reviews and speculates on many of the problems dealt with in this volume, we would say of *Human Personality* that it adds nothing—where it deals with known scientific facts—to our stock of knowledge; and where it enters the region of the purely speculative and occult, it is a bewildering labyrinth of spiritualistic hypothesis.

At starting, Mr. Myers is the modern scientist, and properly says that in the study of "personality" we must begin with it as normal observation gives it to us. "The identity of a person," he says, "is a perfect identity." This is perfectly the case if it is regarded conjointly with the world of matter; otherwise it is but a half-truth, since personal identity is derived from, and dependent on, world forces. All things in the universe are identified with these forces. He admits that "human personality" is an "elaborate co-ordination of the parts of the physical organism, of which the brain is the supreme representative." But this is a very limited and imperfect definition, and is not, therefore, strictly correct. Human

personality is rather the cosmic energy focussed in material form.

On this inaccuracy he builds a thesis, which, it seems to us, leads him into a region where neither science nor reason can follow. Mr. Myers says "we are now aware that personality is not unitary," not something "known with practical completeness to the waking self." How comes he to know, then, that "the identity of a person is a perfect identity" if it is "not known to the waking self"? It is a twofold structure: one part he calls the "supraliminal," the other the "subliminal," self. The supraliminal he defines as stimulated by the world of experience, reacting on it, and as somehow raised above the other, which is, therefore, beneath it; the subliminal self, he says in effect, is the inheritor of the experiences and passions of its human and animal ancestors. In other words, Mr. Myers's definition of human personality is closely akin to the theologic dogma—*i.e.*, that man possesses a spirit as well as a body. This he confirms by saying the subliminal self is not a conscious part of the supraliminal, but is a separate conscious entity. The latter is mortal, like all organisms; the former is immortal. Again we ask, How does he know? The supraliminal depends on the subliminal, not the latter on the former. Mr. Myers endeavours to prove his theory by citing as examples how the personality of a single individual may sometimes seem to be two or more individuals, each with its own mental phenomena and character; and this he construes as a proof that the supraliminal is not the true self, since it has no indivisible unity, and that the true self is the subliminal. This, again, he tries to prove by referring to genius, and how its thoughts, images, and intuitions flow into the consciousness of the genius as if to master him in their "subliminal uprush." But this *only proves* that through material sense a man is dominated

by matter and force in conjunction with his senses. Genius he regards as true evidence of a distinct entity in the possessor. He instances sleep as a suspension of the supraliminal, and speaks of dreams in respect to their seeming flight into the past and future as spiritual vitality communicated by the sub to the supra. Along this line Mr. Myers very naturally leads up to an avowal of his belief in hypnotism and spiritualism, in which regions, particularly the latter, he is a pure speculator, with which science has nothing to do except to leave them severely alone in the non-existent region of the fanciful. He looks on these occult phenomena as means of access to the real entity or soul, or the immortal part of man, which, while it holds intercourse with us by means of the physical organism as a mere bridge of correspondence, derives all its knowledge by means that are purely spiritual. He ascribes to the subliminal soul a quality or power for the ramification of the supraliminal, which he finds a striking proof of the inferior and mortal part of man.

From dreams Mr. Myers glides into ghosts, and differentiates between ghosts and ghosts. Some are mere phantoms originating within the brain; others he classifies as spiritual phenomena, which may be *self-projected* from the supra for reasons of a sympathetic character, or interest in, or attachment for, certain individuals to whom they desire to communicate information—it may be of some tragedy or some other less serious event relating to them. From this he passes on to the chief proof of his subliminal theory, and finds it in “trances, possession, and ecstasy,” which, he affirms, are the certain proof of the immortal nature of man. In citing examples of these latter he refers to the Rev. Stainton Moses and Mrs. Piper, whose mediumship as spiritualists he uses to establish his theory that

discarnate spirits of men can actually enter and take possession of living human organisms, and through them make communications from a world of spirits.

This is, perhaps in too great brevity, Mr. Myers's "gospel" of man's dual nature—the perishable part and the imperishable part of him. Like Professor Crookes and a few others of like psychic sympathies, Mr. Myers is a scientist with an overpowering passion and reverence for anything partaking of the mysterious. When it gets anything like a fair opportunity, his passion for the occult runs away with him, and tramples his science in the mud. As we have already done our best, in an imperfect way, to expose the chief phenomena which Mr. Myers uses to establish his theory for the reality of spiritual phenomena and a spirit world, it is almost a waste of time to reconsider them. But when one seriously examines the proof which Mr. Myers cites for his "gospel" of human immortality, it amazes one to think that so scientific a mind should have succumbed so readily to the enchantments of apparitions into a belief in their divine reality and intent, and thus depart from the only real method—the scientific—which can discern between the fiction and the fact.

By an extraordinary system of mental occultism during what we must consider a total suspension of his intellectual perception and scientific acumen, Mr. Myers classifies his ghosts or apparitions as actual divine informants from a spiritual world. Some, he hesitatingly grants, are mere hallucinations, while others he recognises as the inhabitants of a subliminal or spiritual sphere within the limits of a material world. His perception that some may be mere *fancies* (how he infers this, Mr. Myers does not say) and others are real *spirits* seems to us to have been achieved

through the agency of some other species of ghost (mental phantasmagoria), and, therefore, to be altogether chimerical.

If it were nothing more than the *character* and *quality* of the information that his subliminal ghosts communicate to mortal men, these alone would suffice to condemn his "gospel" as utterly fantastic, and unpardonable to a subliminal spirit, and not much, if any, better than the primitive superstition of the savage, except that it is the ripe product of a twentieth-century educated mind. Because Mr. Myers could not, by his own discernment and knowledge of science, account for the silly and childish phenomena of the planchette, and the even sillier tattle of the brainless mediums he instances, his occult passion runs away with him to find a solution in the superstitious belief that discarnate spirits, in temporary possession of other persons' bodies, were the source—persons, moreover, of whom, when in their own body, these discarnate spirits knew nothing. Was there ever anything so unforgivingly puerile?

It is a calamity when men in the position which the late Mr. Myers filled in the intellectual and scientific world have recourse to a belief in the miraculous for the solution of phenomena for which, at the moment, they cannot find a rational solution. The achievements of science might at least restrain intelligent men from seeking solutions of natural phenomena in a sphere utterly unknown to them and non-existent. More than that, they might be taught that modern discoveries, embracing knowledge of the material universe, its electricity, its ether, its radium, its light, and the infinitely subtle laws and operations of these upon, and by, matter, are as yet only in their infancy, and therefore should have the effect of restraining the hasty and irrational conclusion that what cannot be immediately traced to physical operations ought to be

ascribed to supernatural ones, because the latter afford the easier solution.

Literally, Mr. Myers's "gospel" is not new. One hundred and sixty years ago Swedenborg pioneered modern spiritualism. Mr. Ward, in his *Naturalism and Agnosticism*, and Professor Crookes, along with Mr. Myers, are the later offspring of a "gospel" whose light is darkness, whose science is superstition.

These idealists doubtless had, and have, a sore struggle to avoid a total disjunction between their scientific and their idealistic tendencies. But the disjunction must come, and fact and fiction must part. It appears to us that, while such men admit the methods and facts of science with respect to all material and organic being, they maintain, notwithstanding, that they are true only in a very partial and subordinate sense—a view which we hold to be a most mischievous one. They consider that there is no real objective existence, no objective universe. The things that we see, touch, hear, and taste, they hold, are absolutely spiritual experiences. All the relationship or objectivity that the material universe is known by, is, to them, merely as the characters on a musical scale that only symbolise the music which is the essential reality and is independent of all incarnation in symbols as of things that are only seeming, or like a proposition in Euclid. The facts of science, they maintain, are no more than the lines and points in a mathematical problem which has no concrete reality. Thus, idealists affirm that we may reason about the laws, processes, and constitution of the material universe, but in doing so we reason about things which have no more real existence than the signs used in music, and the lines and points in a mathematical proposition. The things that science handles and shows to be everlasting—that our senses feel, and our reason knows are true—are mere

illusory adjuncts extending into, and ending in, an unseen and spiritual reality, which is the only existence. Concrete phenomena are like so many symbols and points behind which the discrete reality is the real and immortal entity, notwithstanding that Mr. Myers's subliminal entities demonstrate themselves in *séance* and planchette by vagaries little different in status from the sports of children, and equally meaningless than these in undissembling truth.

Idealists or spiritualists altogether err, it appears to us, in calling perception a thing. Perception is not a thing, but a function—a hunger function, so to speak, which supplies brain stimulant. That which idealists regard as permanent or substantial is not a sensation, but consists of organic functions or qualities which in ultimate analysis point out the cyclic cause of sensation either immediately made conscious to us, or such as our ordinary experience teach us would be made conscious to us in conjunction with organic or nerve senses.

Mr. Myers's subliminal and supraliminal selfs are nonentities. Individuality, or individual consciousness, is but an aspect of one unified universal force, condensed and conserved by evolution, and increased in complexity and momentum by the necessities of the organism along the line of development. Self-consciousness, therefore, is the universal force or energy focussed in man as its highest known product and subsidiary centre.

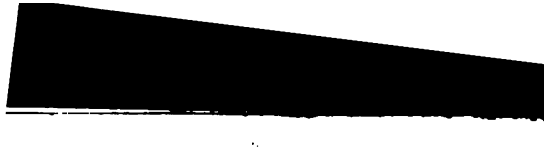


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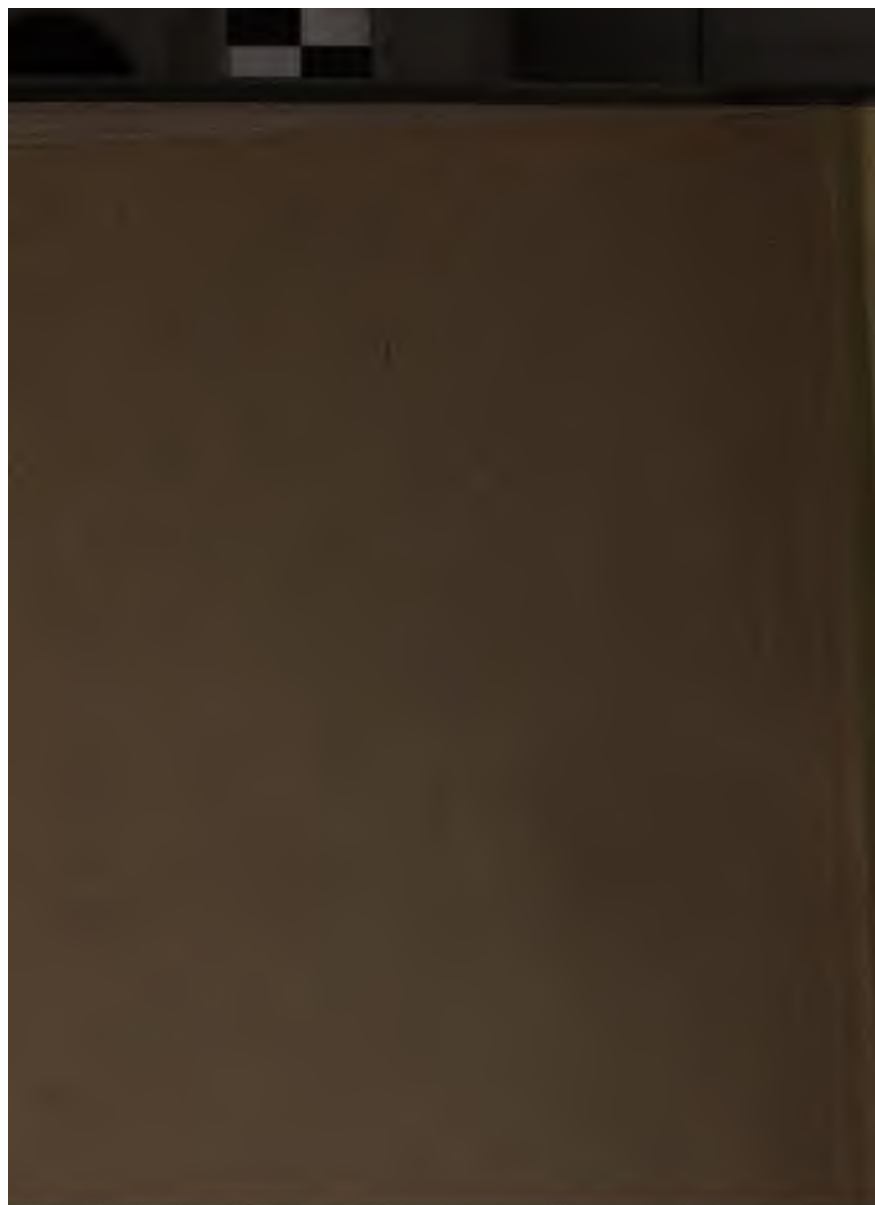
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